UNCLASSIFIED

Interoperability Process

and

Net-Ready Key Performance Parameter (v1.0)

LTC Tom Gaetjen

J6

Agenda

- **Set Stage**
- **Today's Approach**
- **Tomorrow’s Vision**
- **How Do We Get There?**

Revised DODD 5000.1, DODI 5000.2 and DOD 5000.2R - USD-AT&L

DODD 4630.5 & DODI 4630.8 - OASD-NII

Capabilities

CJCSI 3170 (J8)

- Capability Validation Process/Procedures
- ICD, CDD, CPD Format
- NET READY KPP

CJCSI 6212 (J6)

- Interoperability and Supportability Certification and Testing
- Methodology for Net Ready KPP Development /Validation

Acquisition

Information Support Plan (OASD-NII)

Operational/Systems/Technical Architecture Infrastructure Support

Process

Testing

TEMP

Systems specs accurately reflect requirements and acquisition documents

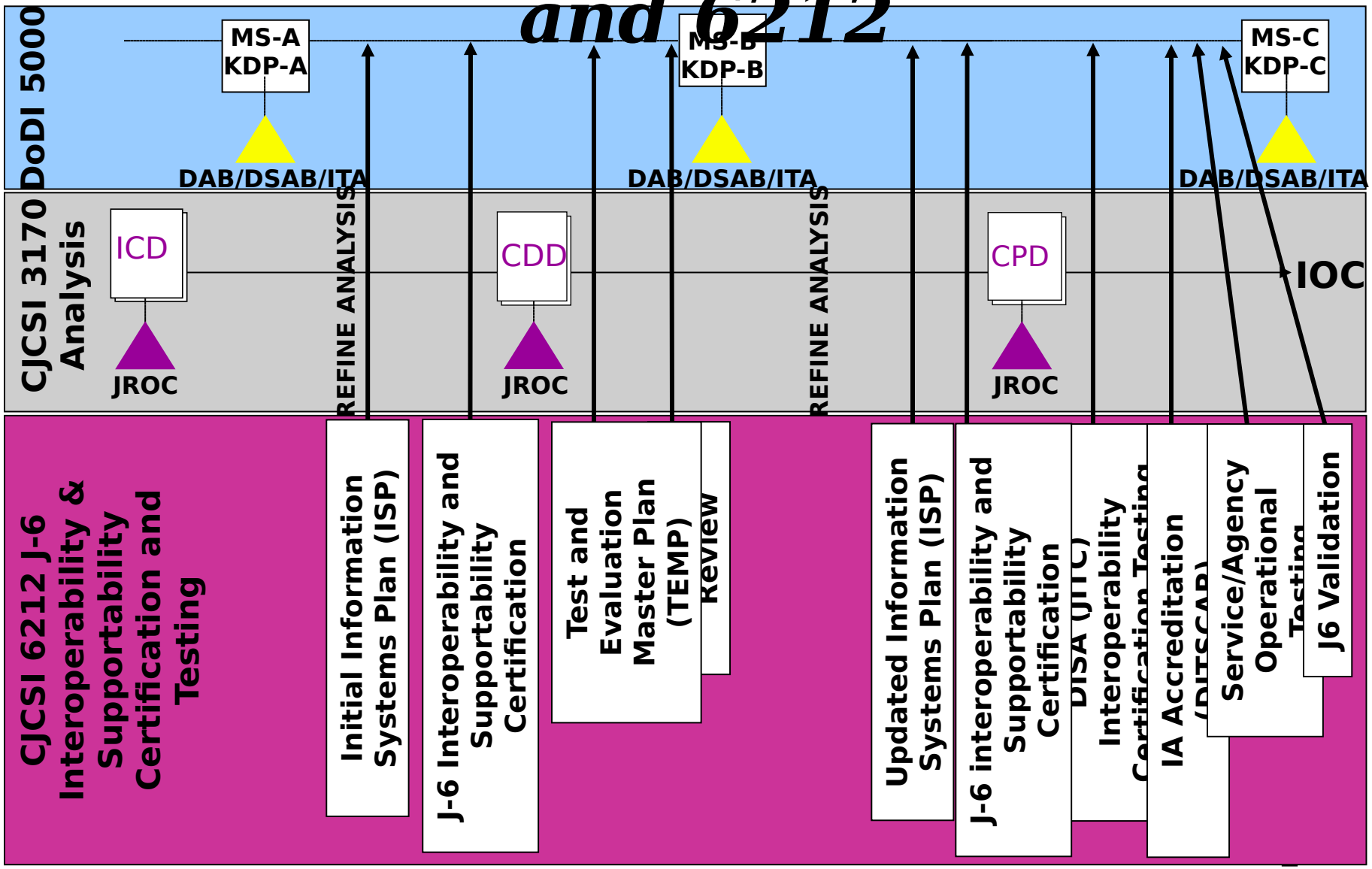
Service/Agency Testing

- DT/Standards Conformance
- OT&E
- Interoperability Testing

DISA(JITC) Interoperability Test Certification

J-6 Interoperability System Validation

Sync – DoDI 5000 &CJCSI 3170 and 6212



Interoperability KPP Today

Top-level IERs will be used as the basis to develop interoperability KPPs. The interoperability KPP definition will include that all top-level IERs will be satisfied to the standards specified in the threshold and objective values.

Typically the threshold criterion for the interoperability KPP will be 100 percent accomplishment of the critical top-level IERs, and the objective criterion for the interoperability KPP will be the accomplishment of all top-level IERs.

Interoperability KPP	Threshold (T)	Objective (O)
All top-level IERs will be satisfied to the standards specified in the Threshold (T) and Objective (O) values.	100% of top-level IERs designated critical	100% of top-level IERs

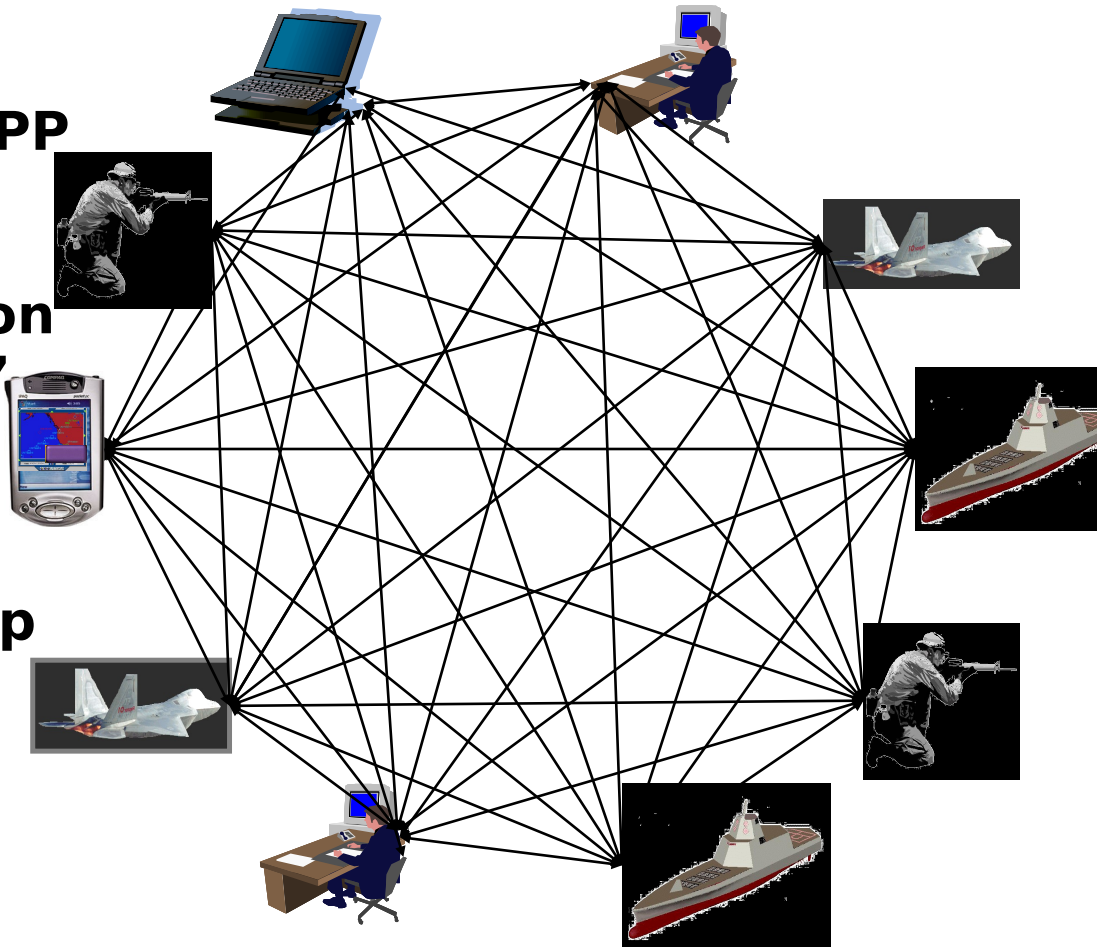
(CJCSI 6212.01B)

Problem: IER Scalability

One-to-One

Current Interoperability KPP centers around one DoD architectural view (OV-3) that contains "Information Exchange Requirements" (IERs)

- **One-to-one relationship (point-to-point)**



This example: 10 systems

IERs 10(9-1) = 90

(OV-3) –Notional USCENTCOM Targeting Extract

* Identifier/ Name of Operational Needline Supported (from OV-2)	* Identifier/ Name of Information Exchange	Nature of Transaction								* Purpose/ Triggering Event	Information Source		Information Destination	
		* Mission/ Scenario	Language (For Multi-National Operations)	* Description (Content)	Size	Units	* Media	Collaborative (Y/N)?	LISI Level Required		* ID of Producing Node (facility or logical node)	* ID/ name of Producing Activity	* ID of Receiving Node (facility or logical node)	* ID/name of Receiving Activity
1	WOC-AOC	Targeting	Eng.	BDA Reports	1-10 pgs	.5-2 MB	.doc .jpg .mpg .ppt .cgm	Y	2a	Air Strike 072200 0615am	XXXth TFW	WOC	609 AIS	AOC
	WOC-AOC	Targeting	Eng.	Target Nominations	1 pg	20KB	.doc	N	1b	ATO XXX 072300	XXXth TFW	WOC	609 AIS	AOC
2														
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
n	MAW-AOC	Targeting	Eng.	BDA Reports	1-10 pgs	.5-2 MB	.doc, .ppt .jpg, .cgm .mpg	Y	2a	Air Strike 072200 0615am	VMF XXX	MAW	609 AIS	AOC

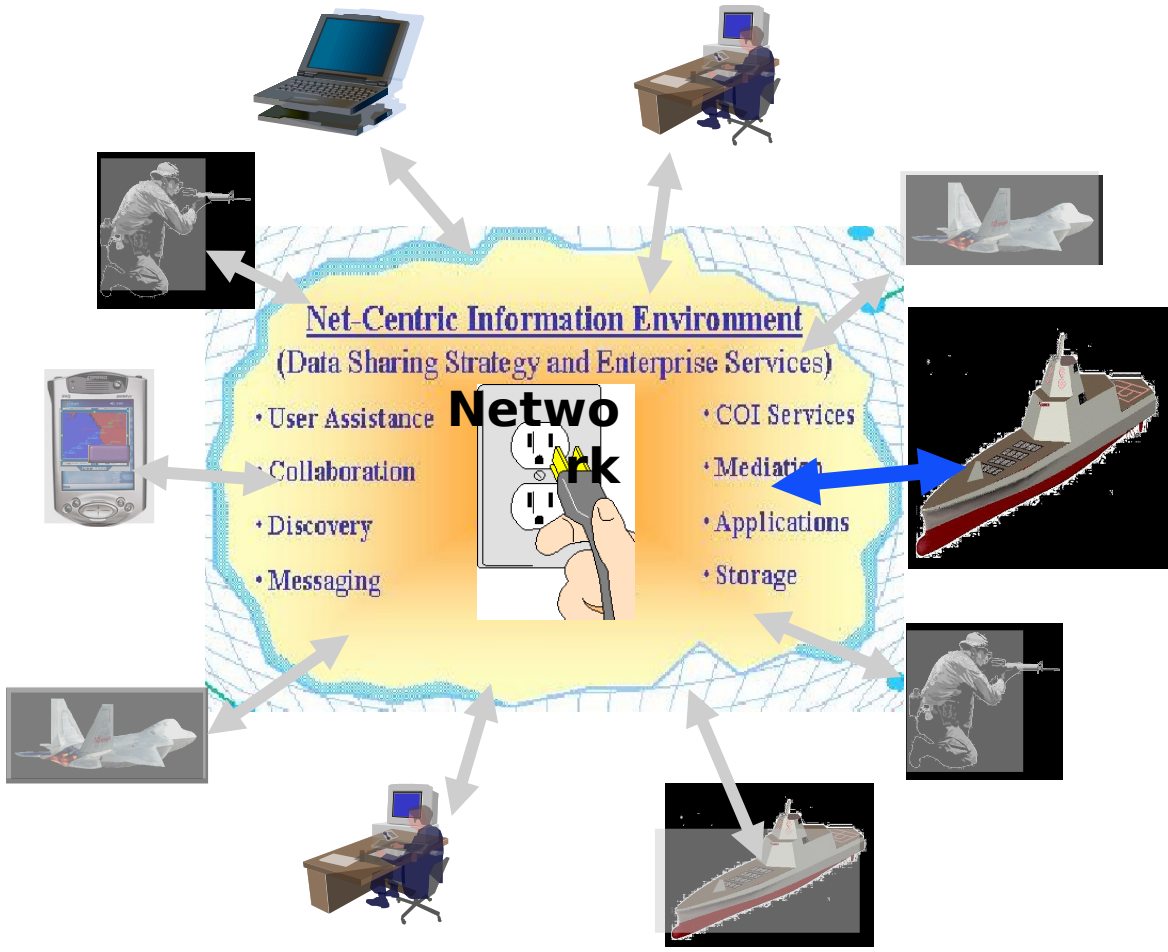
Note: All values shown above are notional.

Solution: The Net-Ready Approach

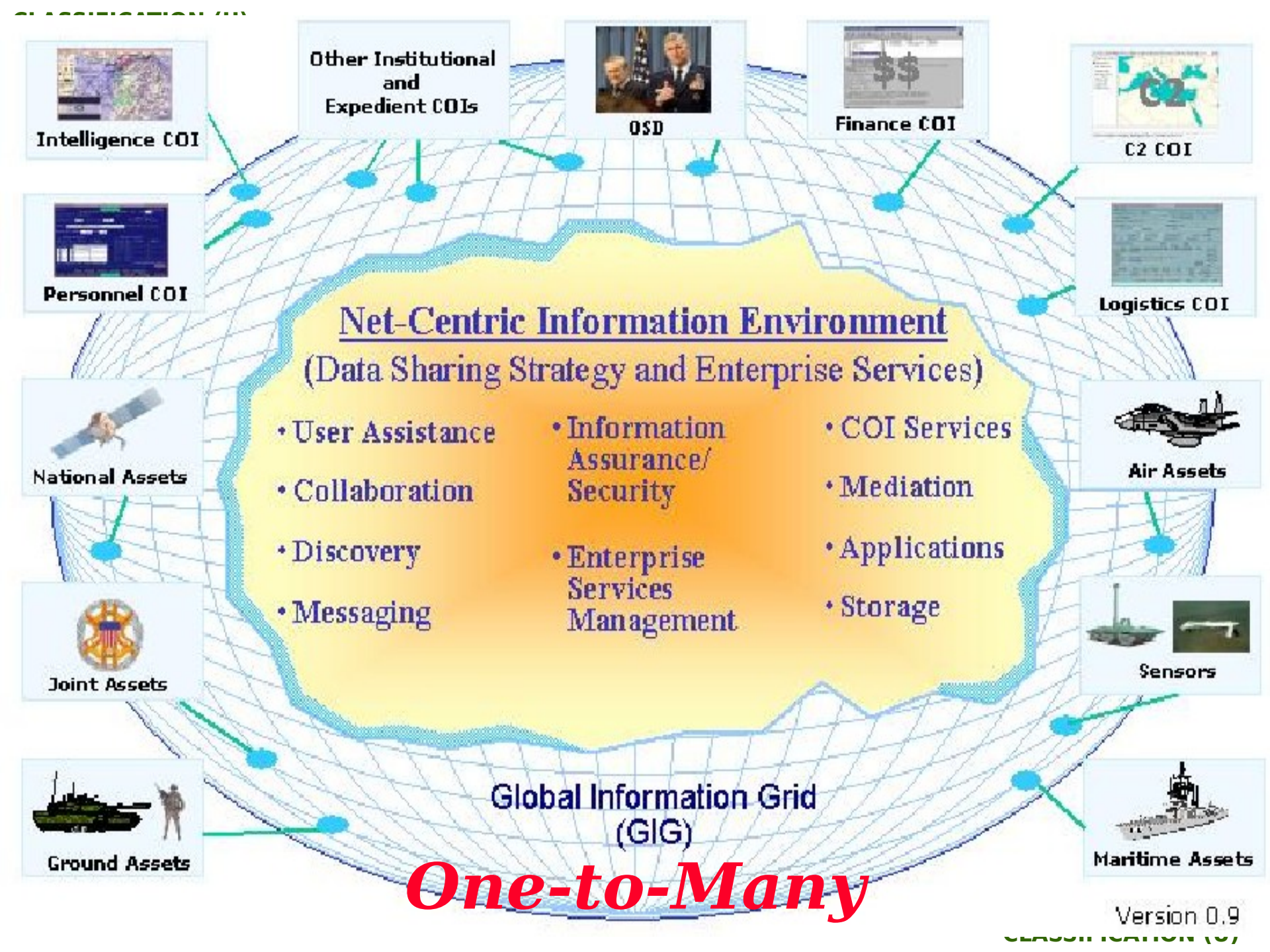
One-to-Many

Net Ready approach centers on central network:

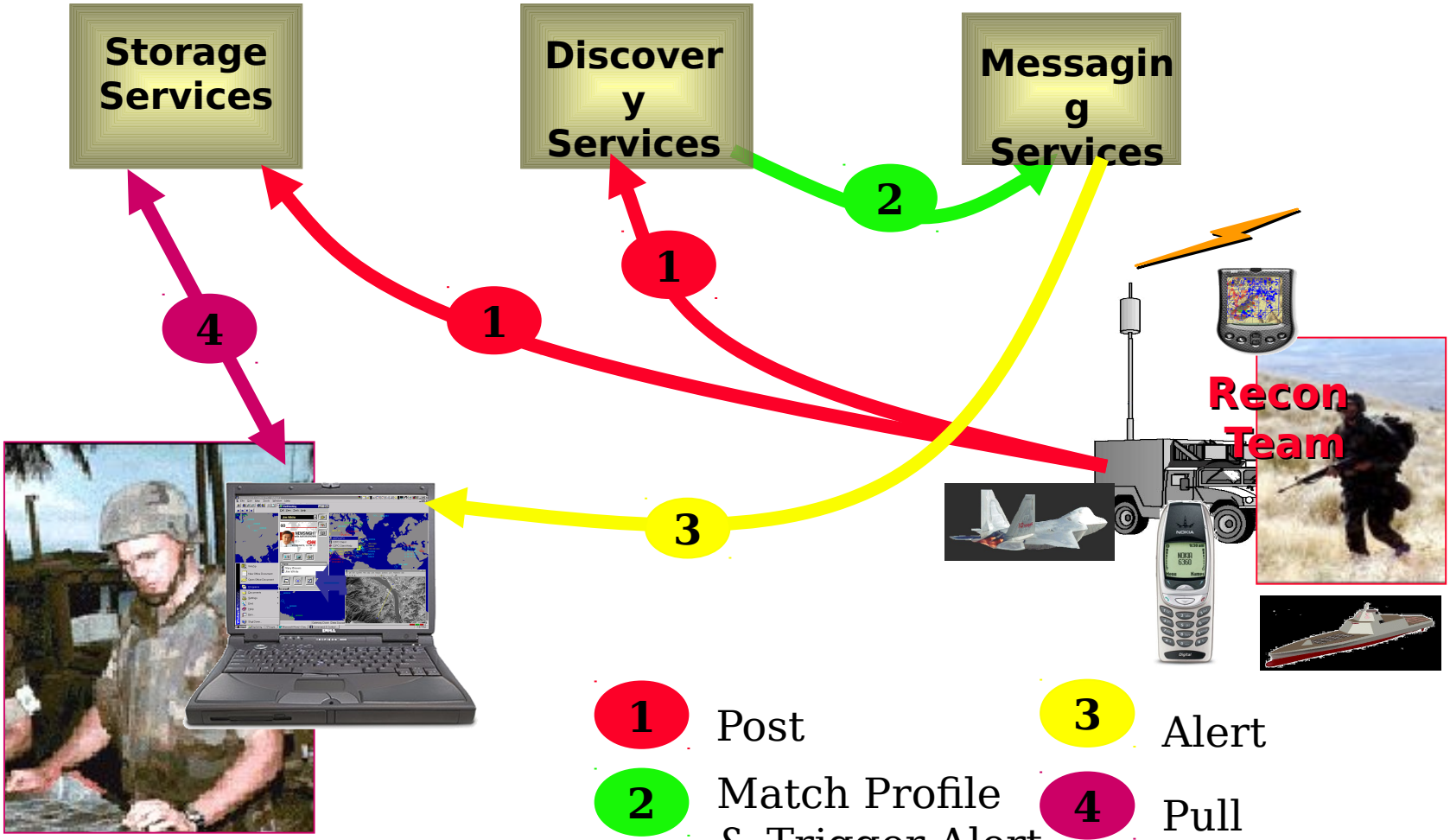
- **Focus on organizational contributions and consumption of information**
- **One-to-network paradigm**



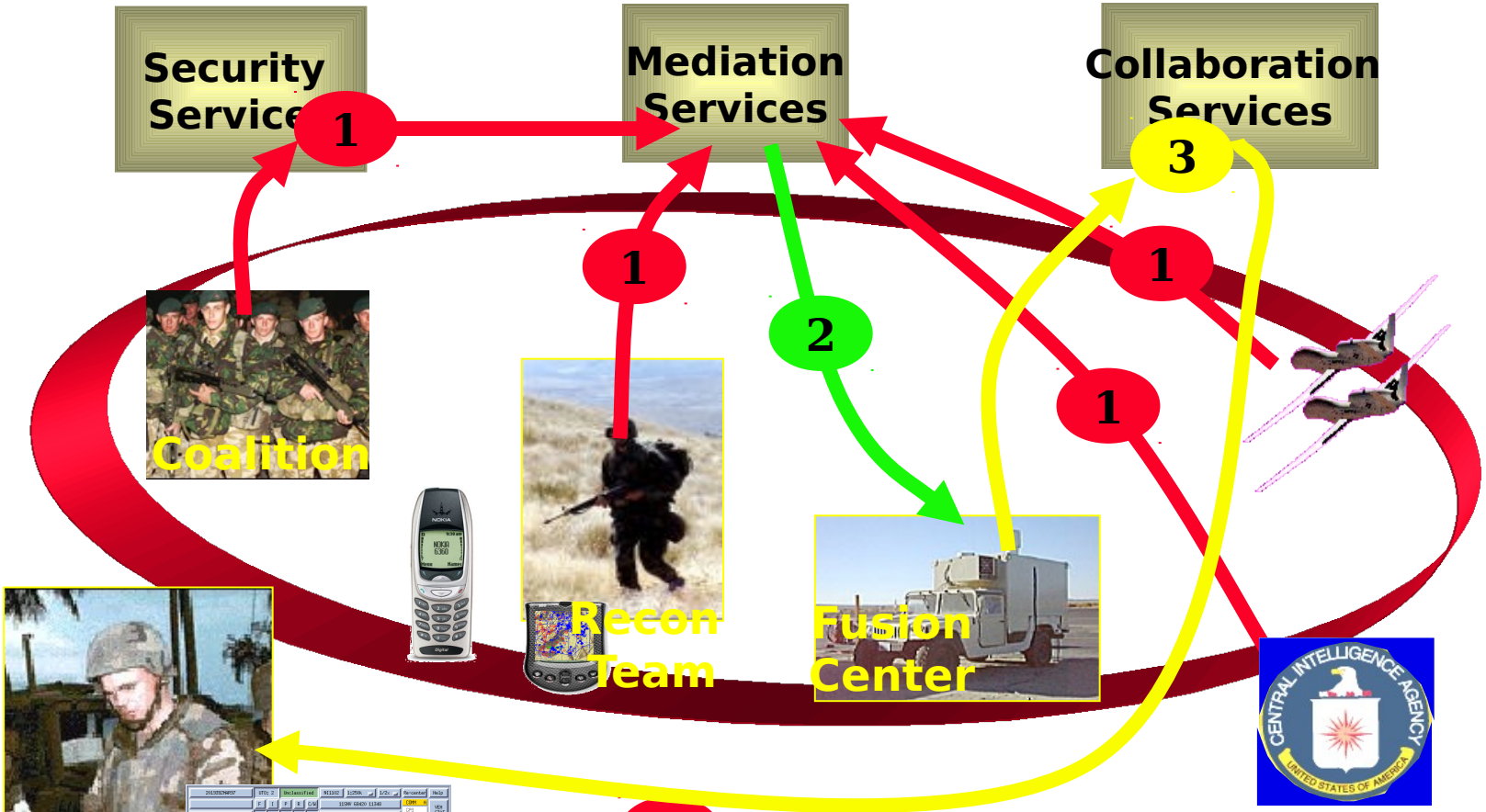
This example: 1 system has to deal 1 interface


Intelligence COI
Other Institutional and Expedient COIs
OSD
Finance COI
C2 COI
Personnel COI
Logistics COI
Net-Centric Information Environment
(Data Sharing Strategy and Enterprise Services)
• User Assistance
• Collaboration
• Discovery
• Messaging
• Information Assurance/ Security
• Enterprise Services Management
• COI Services
• Mediation
• Applications
• Storage
National Assets
Air Assets
Joint Assets
Sensors
Ground Assets
Maritime Assets
Global Information Grid
(GIG)
One-to-Many
Version 0.9

How GES/NCES works



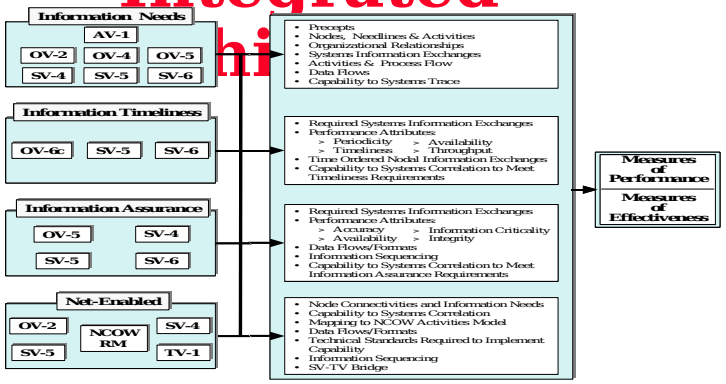
How NCES works (Cont'd)



Net-Ready KPP

NCOW RM Compliance

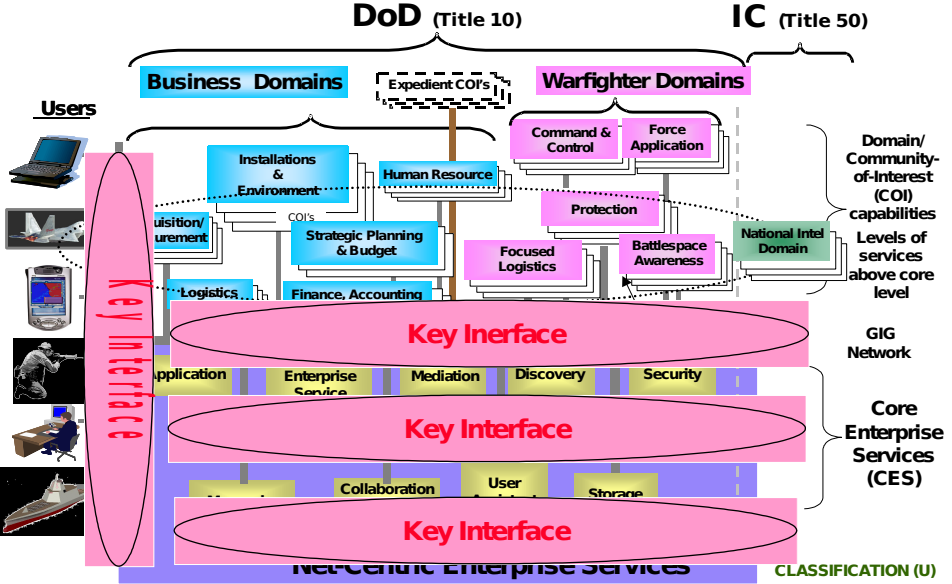
Integrated Architecture



KIP Compliance

CLASSIFICATION (U)

GIG Enterprise Services Vision

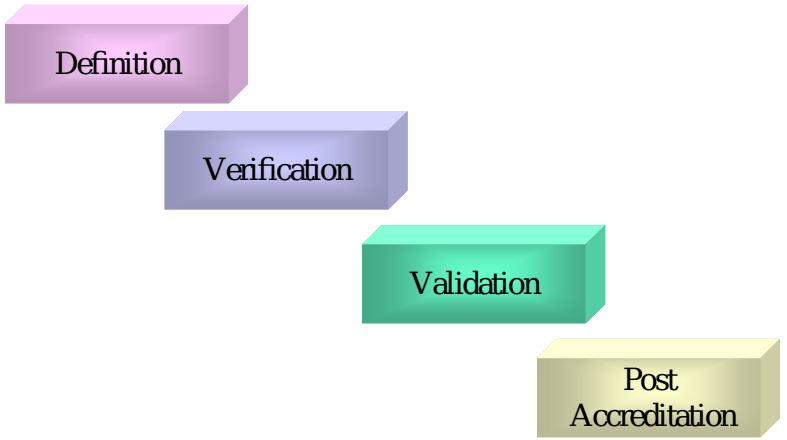


CLASSIFICATION (U)

Information Assurance (DITSCAP*)

CLASSIFICATION (U)

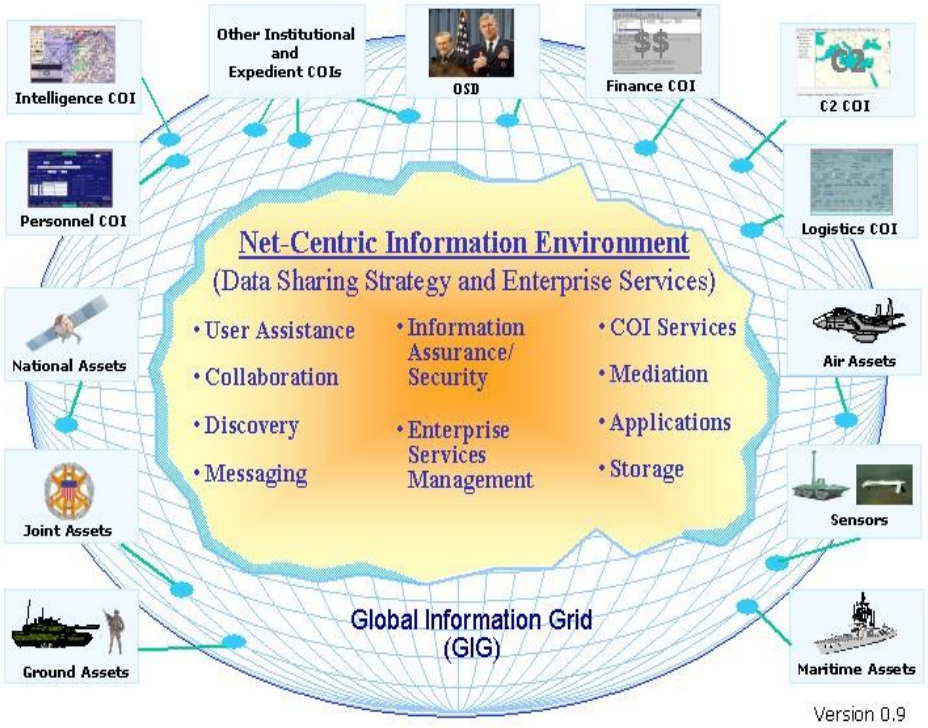
Information Assurance



*DoD Information Technology Security Certification and Accreditation Process

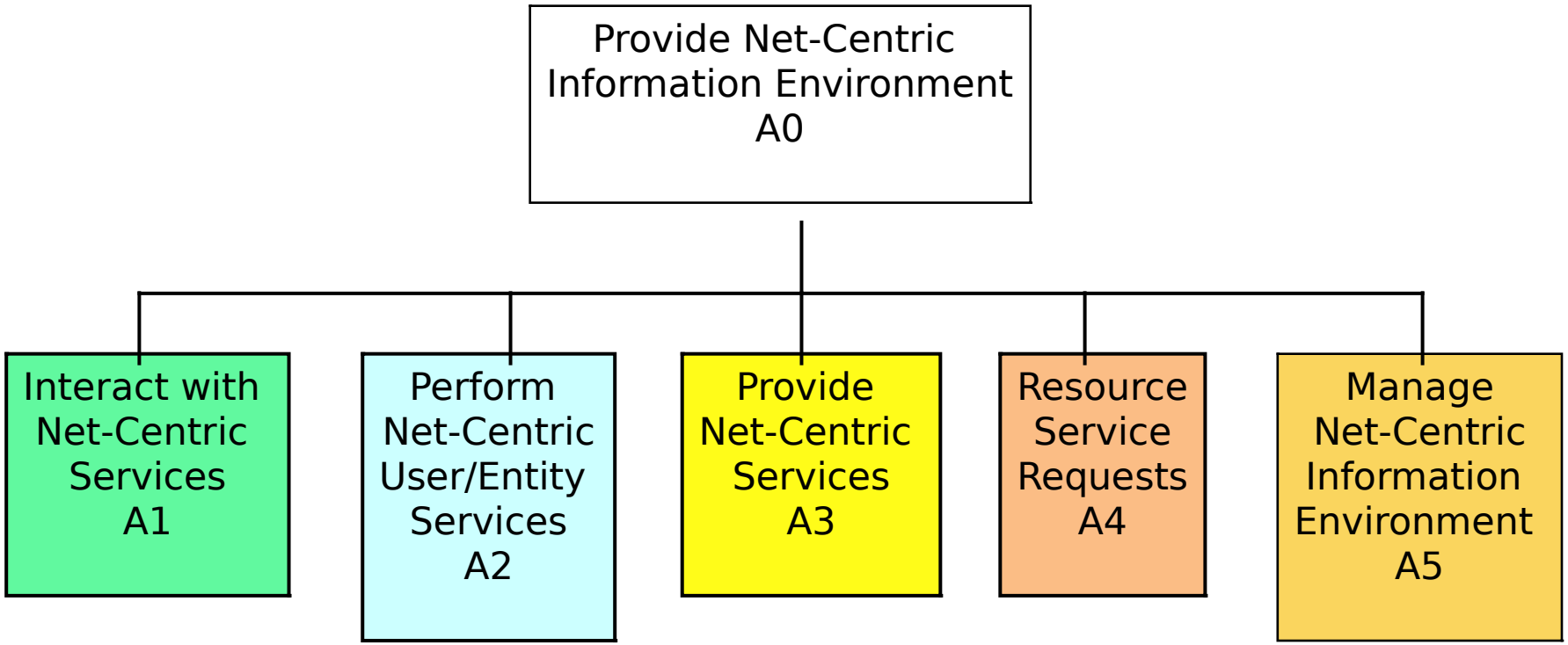
CLASSIFICATION (U)

(NCOW) Reference Model

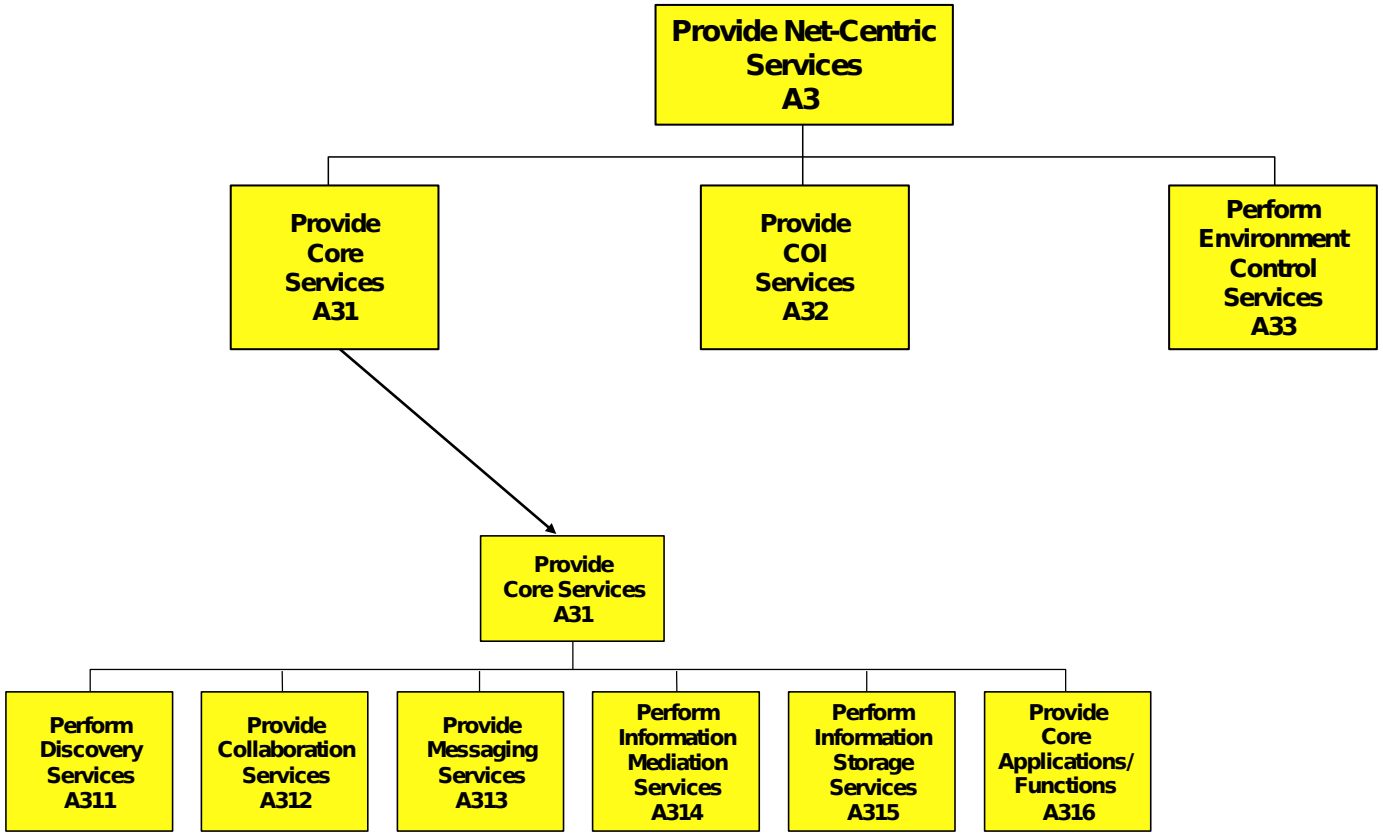


- **Generic user-interface**
- **Intelligent-assistant capabilities**
- **Net-centric service capabilities (core services, Community of Interest (COI) services,**
- **Environment control services**
- **Enterprise management components.**

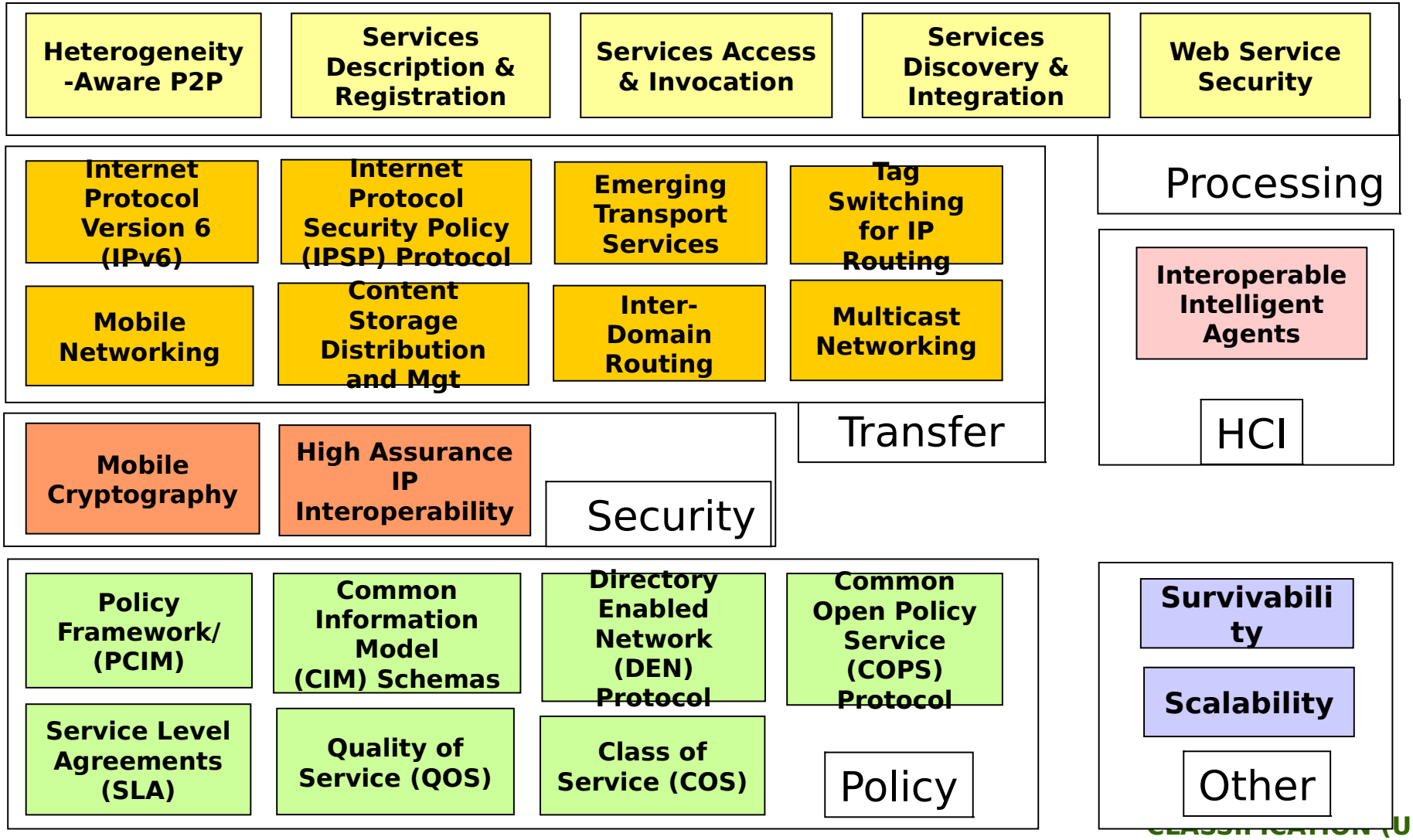
(NCOW) Reference Model


Provide Net-Centric Information Environment A0
Interact with Net-Centric Services A1
Perform Net-Centric User/Entity Services A2
Provide Net-Centric Services A3
Resource Service Requests A4
Manage Net-Centric Information Environment A5

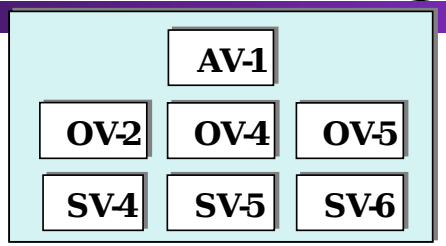
(NCOW) Reference Model

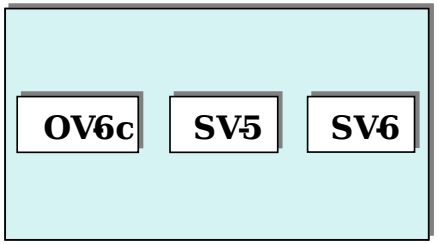

Provide Net-Centric Services A3
Provide Core Services A31
Provide COI Services A32
Perform Environment Control Services A33
Provide Core Services A31
Perform Discovery Services A311
Provide Collaboration Services A312
Provide Messaging Services A313
Perform Information Mediation Services A314
Perform Information Storage Services A315
Provide Core Applications/ Functions A316

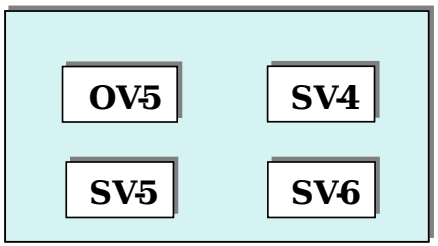
NCOW RM Target Technical View
(Technical Areas by Core IT Category)

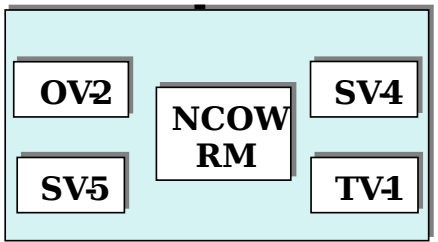


Integrated Architecture



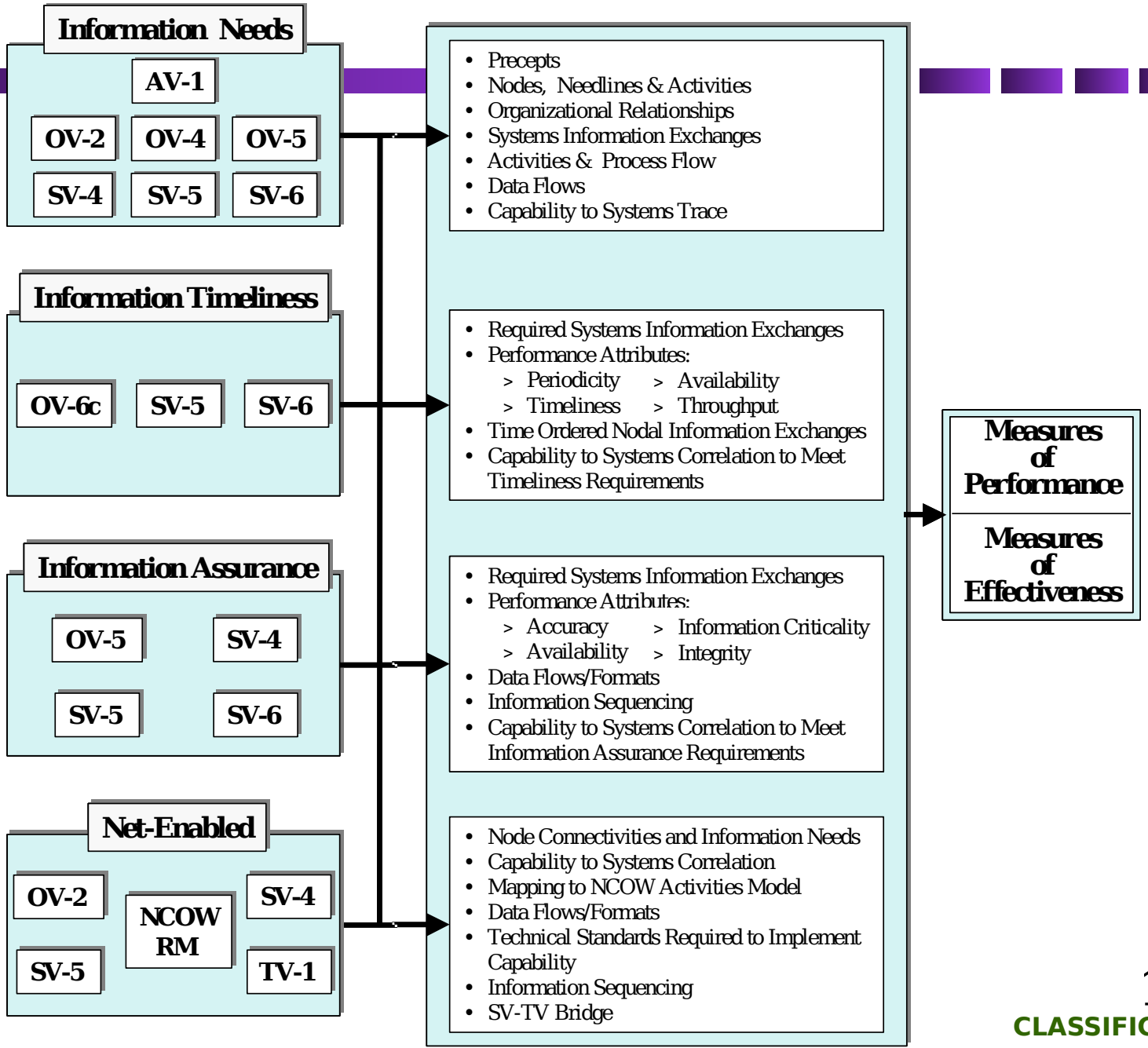






- **Operational Nodes**
- **Organizational Relationships**
- **Operational Activity**
- **Operational Event-Trace**
- **Systems Functionality Description**
- **Operational Activity to Systems Function**
- **Systems Data Exchange**
- **Technical Architecture Profile**

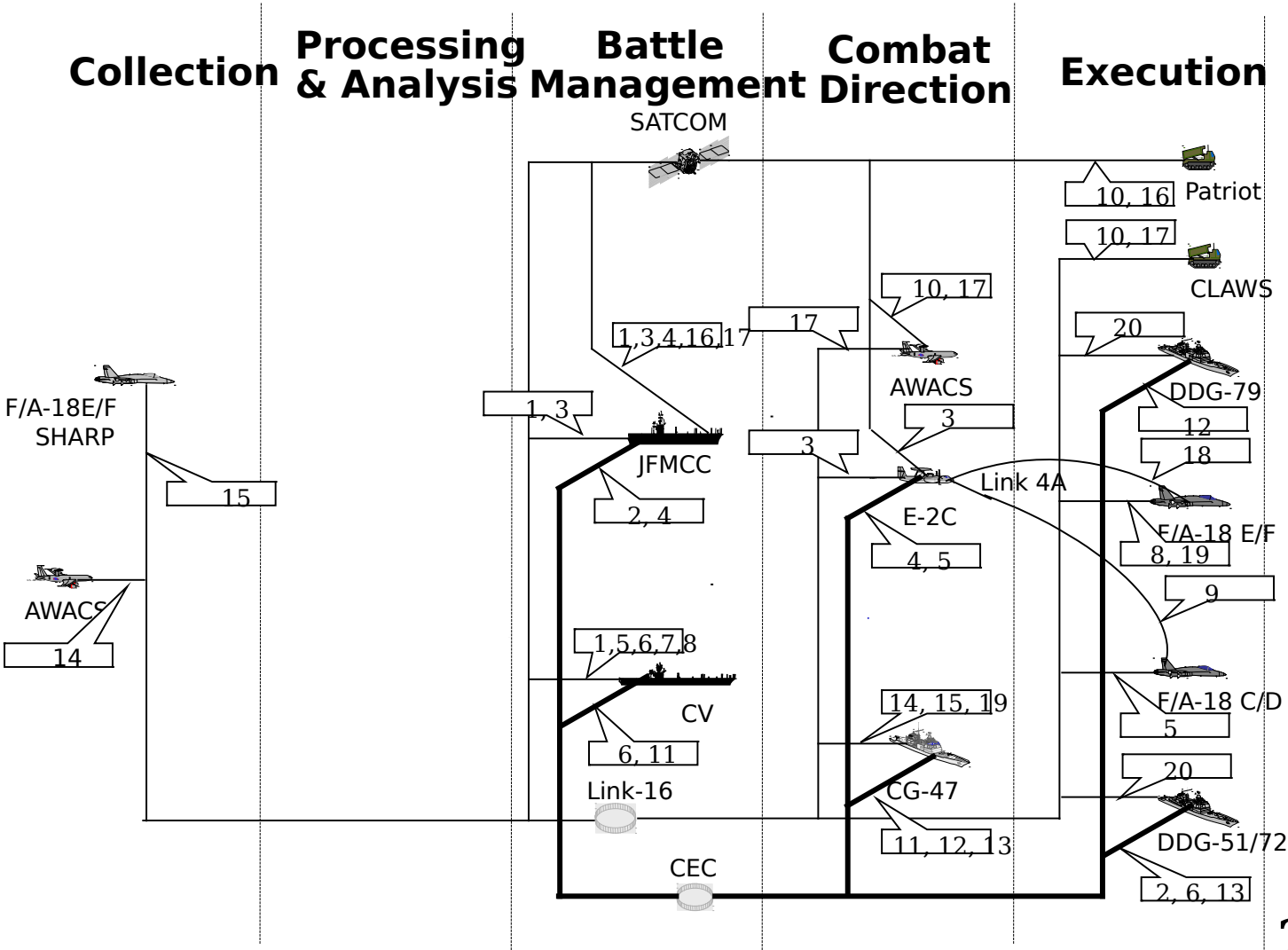
Integrated Architecture



Supporting Integrated Architecture Products

Framework Products	Framework Product Name	General Description
AV-1	Overview and Summary Information	Scope, purpose, intended users, environment depicted, analytical findings
OV-2	Operational Node Connectivity Description	Operational Nodes, operational activities performed at each node, connectivity and information exchange needlines between nodes
OV-4	Organizational Relationships Chart	Organizational, role, or other relationships among organizations
OV-5	Operational Activity Model	Operational activities, relationships among activities, inputs and outputs. Overlays can show cost performing nodes, or other pertinent information.
OV-6c	Operational Event-Trace Description	One of three products used to describe operational activity sequence and timing – traces actions in a scenario or sequence of events and specifies timing of events
SV-4	Systems Functionality Description	Functions performed by systems and the information flow among system functions
SV-5	Operational Activity to Systems Function Traceability Matrix	Mapping of systems back to operational capabilities or of system functions back to operational activities.
SV-6	Systems Data Exchange Matrix	Provides details of systems data being exchanged between systems.
TV-1	Technical Standards Profile	Extraction of standards that apply to the given architecture.

SV-1: 2003 Strike Mission Node Connectivity Diagram



Note: Notional architecture for instructional purposes

Operational Capability to System Traceability Matrix (SV-5)

OV-5 Operational Activity

SV-1/2 Systems

	Operational Activity a	Operational Activity b	Operational Activity c	Operational Activity d	Operational Activity e	Operational Activity f	Operational Activity g
System 1	●		●			●	
System 2		●		●		●	
System 3		●		●	●		●
System 4	●		●	●	●		
System 5		●		●			●
System 6				●		●	

Operational Activity to Systems Function Traceability Matrix (SV-5)

System Functions	Operational Activities															
	3.11	3.11.3	3.12	3.12.1	3.12.2	3.12.3	3.13	3.14	3.14.1	3.14.2	3.14.3	3.14.4	3.15	3.16	3.17	3.17.1
1	X															
1.1		X														
1.1.1			X													
1.1.1.1	X															
1.1.1.2					X											
1.1.1.3							X									
1.1.2										X						
1.1.2.1				X												
1.1.2.2						X										
1.1.2.3								X								
1.1.3											X					
1.1.3.1													X			
1.1.3.2									X							
1.1.3.3														X		
1.1.3.4														X		

Systems Data Exchange Matrix (SV-6)

SV-6: 2003 Strike Mission (Illustrative Data)

IER No.	Sender	Receiver	Content	Media	Info Char	Format	Security	Freq	Timeliness	Thru put
1	JFMCC	CVIC	Target ID	JTIDS/SAT	Data	J 3.90	KGV-8	N/A	30 sec	N/A
2	DDG-51	JFMCC	Track Init.	DDS	Sensor	CEC data	KY-?	N/A	1 sec	N/A
3	JFMCC	E-2C	Engage Order	JTIDS/SAT	Data	J 13.85	KGV-8	N/A	15 sec	N/A
4	E-2C	JFMCC	Track Update	DDS	Sensor	CEC data	KY-?	N/A	7ms	N/A
5	CVIC	F/A-18	Engage Order	JTIDS	Data	J 13.85	KGV-8	N/A	10ms	N/A
6	DDG-51	CVIC	Target Loc	DDS	Sensor	CEC data	KY-?	N/A	4 sec	N/A
7	Patriot	CVIC	Target Acq	JTIDS	Data	J 4.56	KGV-8	N/A	2 min	N/A
8	F/A-18CD	CVIC	Target Killed	JTIDS	Data	J 8.76	KGV-8	N/A	3 min	N/A
9	E-2C	CVIC	CAP Posit	JTIDS	Data	J 10.74	KGV-8	N/A	35 sec	N/A
10	Patriot	AWACS	Target Loc	JTIDS/SAT	Data	J 12.101	KGV-8	N/A	4 Sec	N/A
11	CG-47	CVIC	Target Loc	DDS	Sensor	J 12.101	KY-?	N/A	2 sec	N/A
12	CG-47	DDG-81	Target ID	DDS	Sensor	CEC data	KY-?	N/A	1 sec	N/A
13	DDG-51	CG-47	Posit Info	DDS	Sensor	CEC data	KY-?	N/A	500 ms	N/A
14	CG-47	AWACS	Cse Orders	JTIDS	Data	J 7.99	KGV-8	N/A	2 min	N/A
15	CG-47	SHARPS	Cse Orders	JTIDS	Data	J 7.99	KGV-8	N/A	2 min	N/A
16	Patriot	JFMCC	Target Loc	JTIDS/SAT	Data	J 12.101	KGV-8	N/A	4 min	N/A
17	Hawk	JFMCC	Target Loc	JTIDS/SAT	Data	J 12.101	KGV-8	N/A	4 min	N/A
18	E-2C	F/A-18EF	Cse Orders	JTIDS	Data	FDL	KGV-8	N/A	30 sec	N/A
19	F/A-18EF	CG-47	Target ID	JTIDS	Data	J 3.90	KGV-8	N/A	30 sec	N/A
20	DDG-81	DDG-51	Target ID	JTIDS	Data	J 3.90	KGV-8	N/A	30 sec	N/A

Note: Notional architecture for instructional purposes

Document	Net-Ready Key Performance Parameter Products																LISI Profile
	Supporting Architecture Products																
	AV-1	OV-1	OV-2	OV-3	OV-4	OV-5	OV-6C	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	TV-1	NCOWRM	KIP Compliance	IA Compliance	
ICD		X													X			
CDD	X		X		X	X	X				X	X	X	X	X	X	X	X Basic
CPD	X		X		X	X	X				X	X	X	X	X	X	X	X Complete
CRD		X		1		2									2	2	2	
ISP	3	3	3		3	3	3			3	3	3	3	3	3	3	3	3 Complete

Note: X = Required

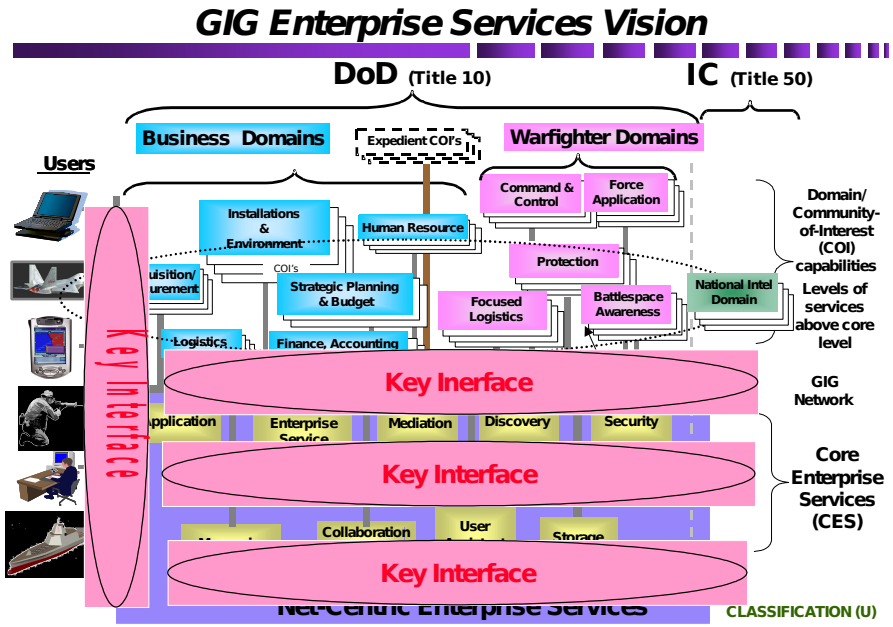
(1) Old CRDs Updates

(2) New CRDs

(3) ACAT, NON ACAT and Fielded Systems. NR KPP products produced for the CDD and CPD will be used in the ISP

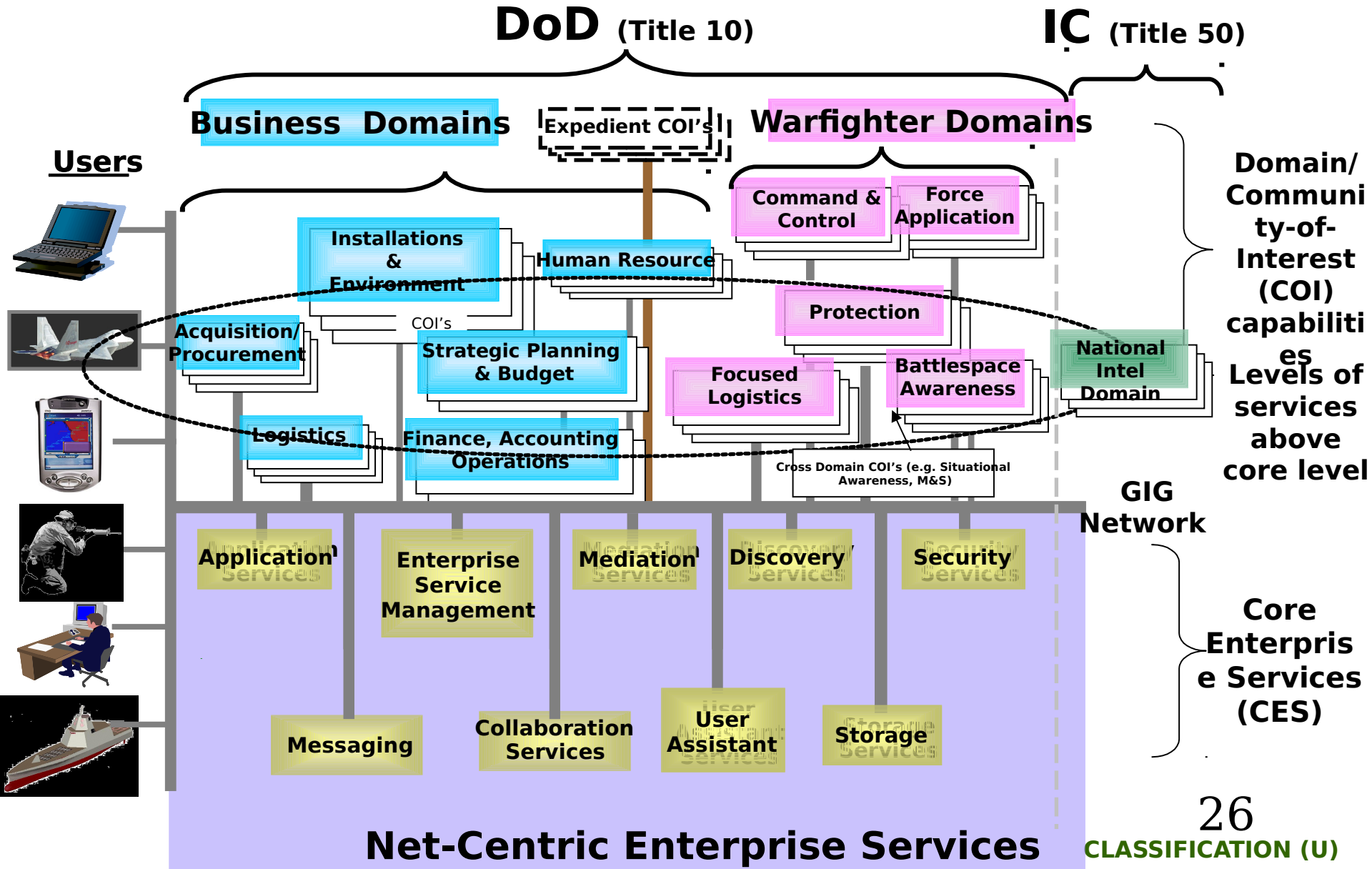
CLASSIFICATION (U)

Key Interface

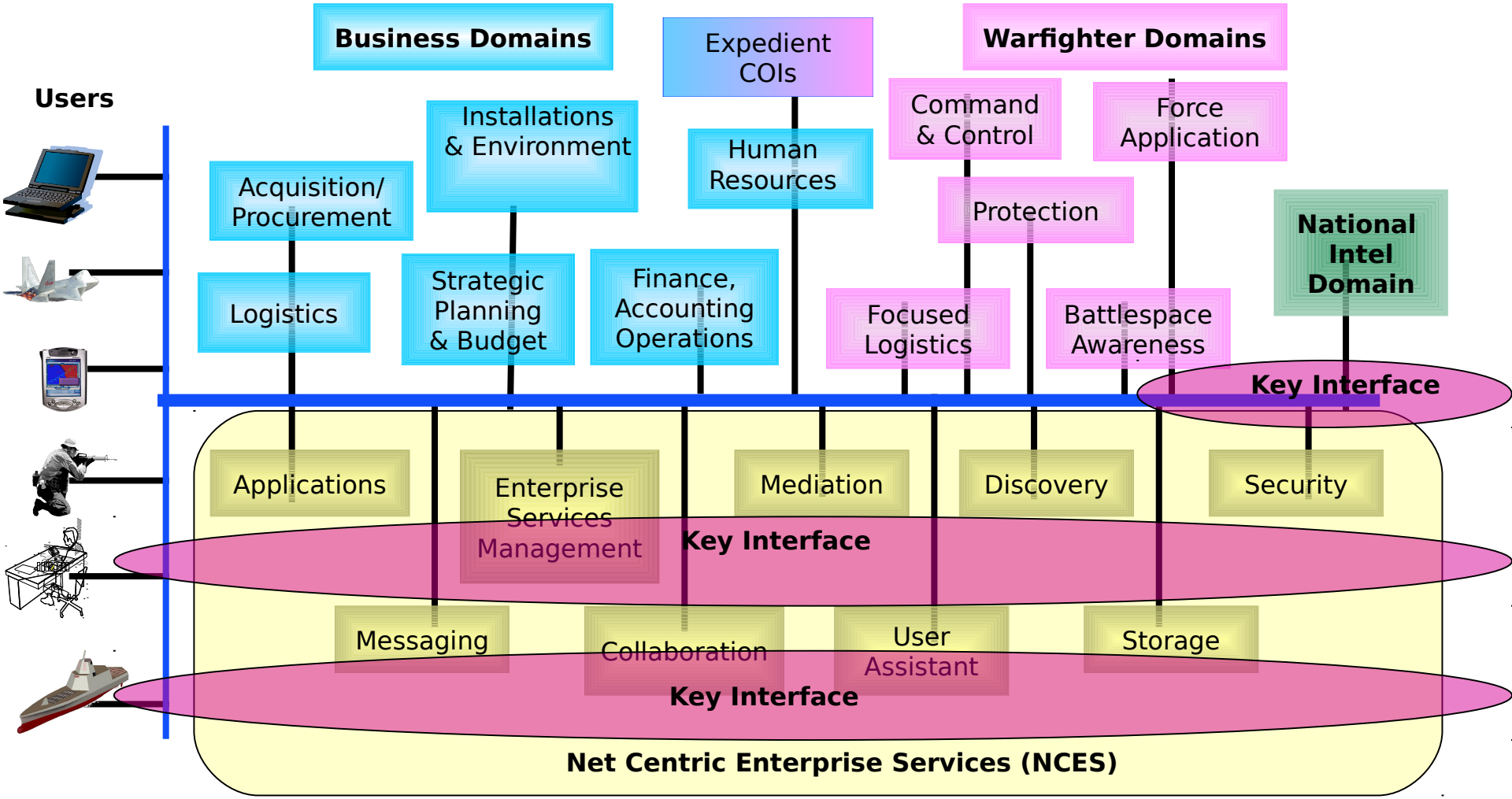


- **Organizational boundaries.**
- **Mission critical.**
- **Difficult or complex to manage.**
- **Capability, interoperability. or efficiency issues.**
- **Impacts multiple acquisition programs.**
- **Vulnerable**

GIG Enterprise Services Vision

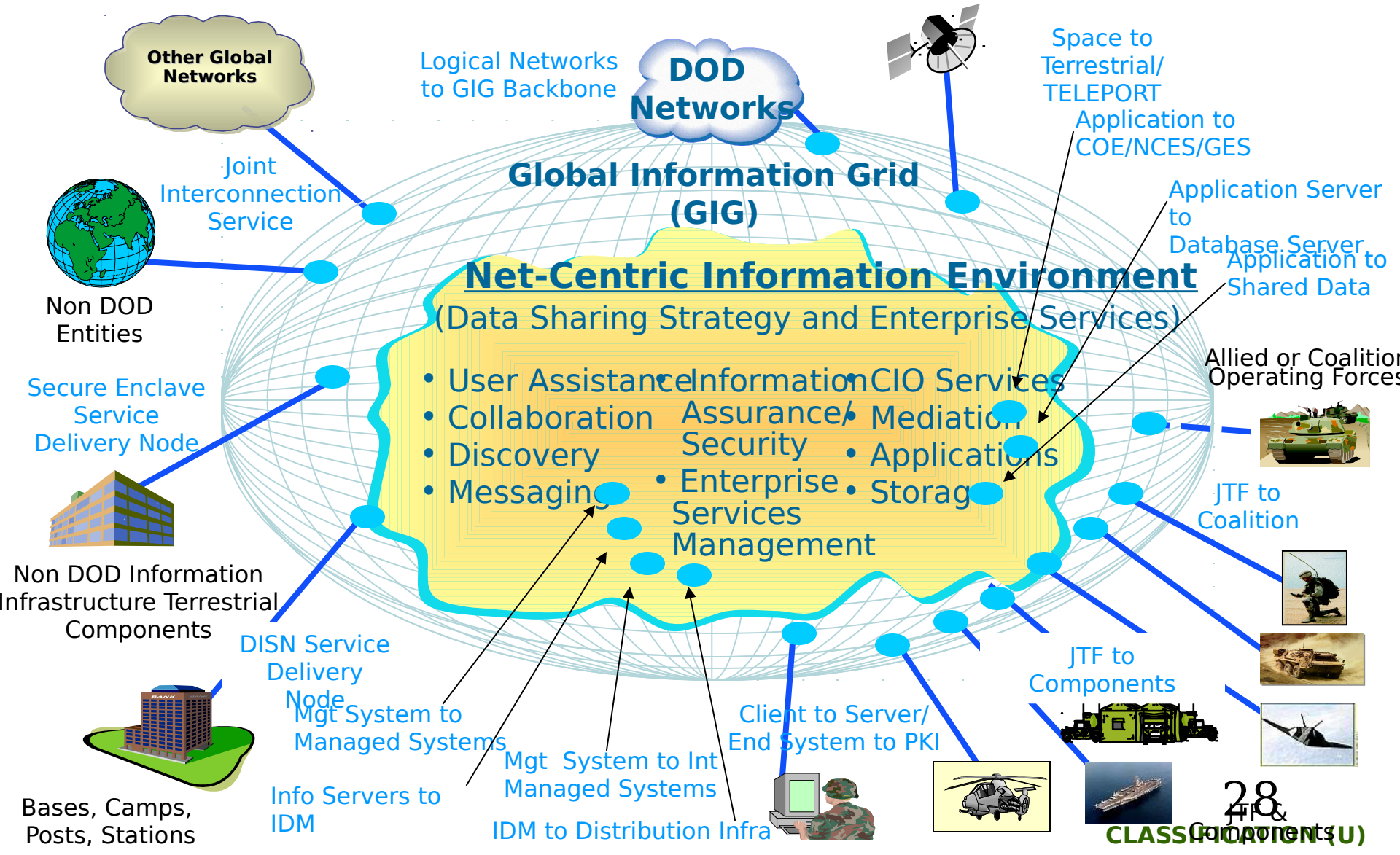


GES/NCES



Key Interface

KIPs to NCES/GES



The 17 Key Interfaces

Communications KIPs

- Logical Networks to DISN Transport Backbone
- Space to Terrestrial Interface
- JTF to Coalition
- JTF Component to JTF Headquarters
- Teleport (i.e., deployed interface to DISN)
- Joint Interconnection Service
- DISN Service Delivery Node
- Secure Enclave Service Delivery Node (e.g., SCI/Collateral KIP)

Computing KIPs

- Application Server to Database Server
- Client to Server
- Applications to COE/CCP

Network Operations KIPs

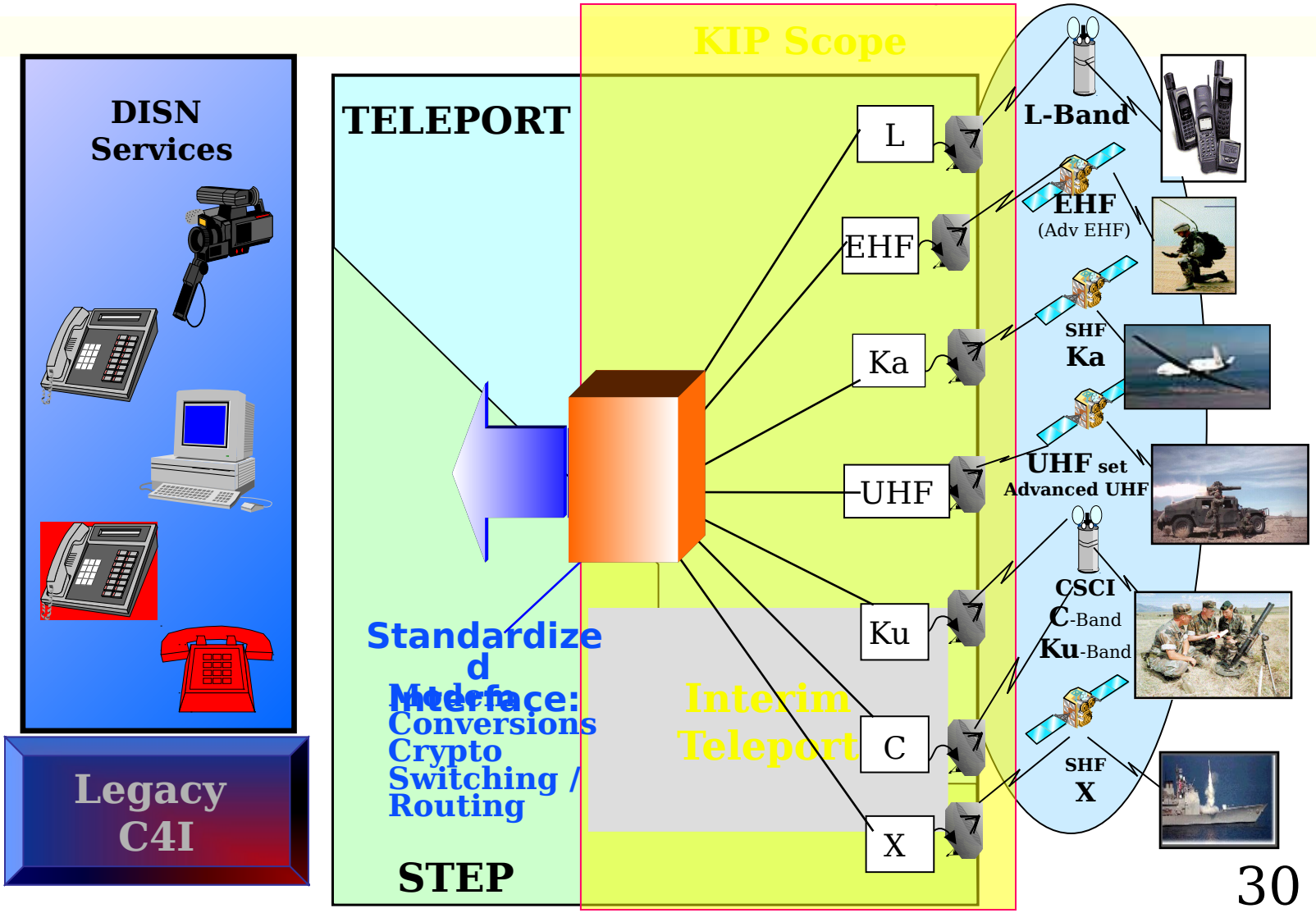
- End System to PKI
- Management Systems to (integrated) Management Systems
- Management Systems to Managed Systems
- IDM to Distribution Infrastructure
- Information Servers to IDM Infrastructure

Applications

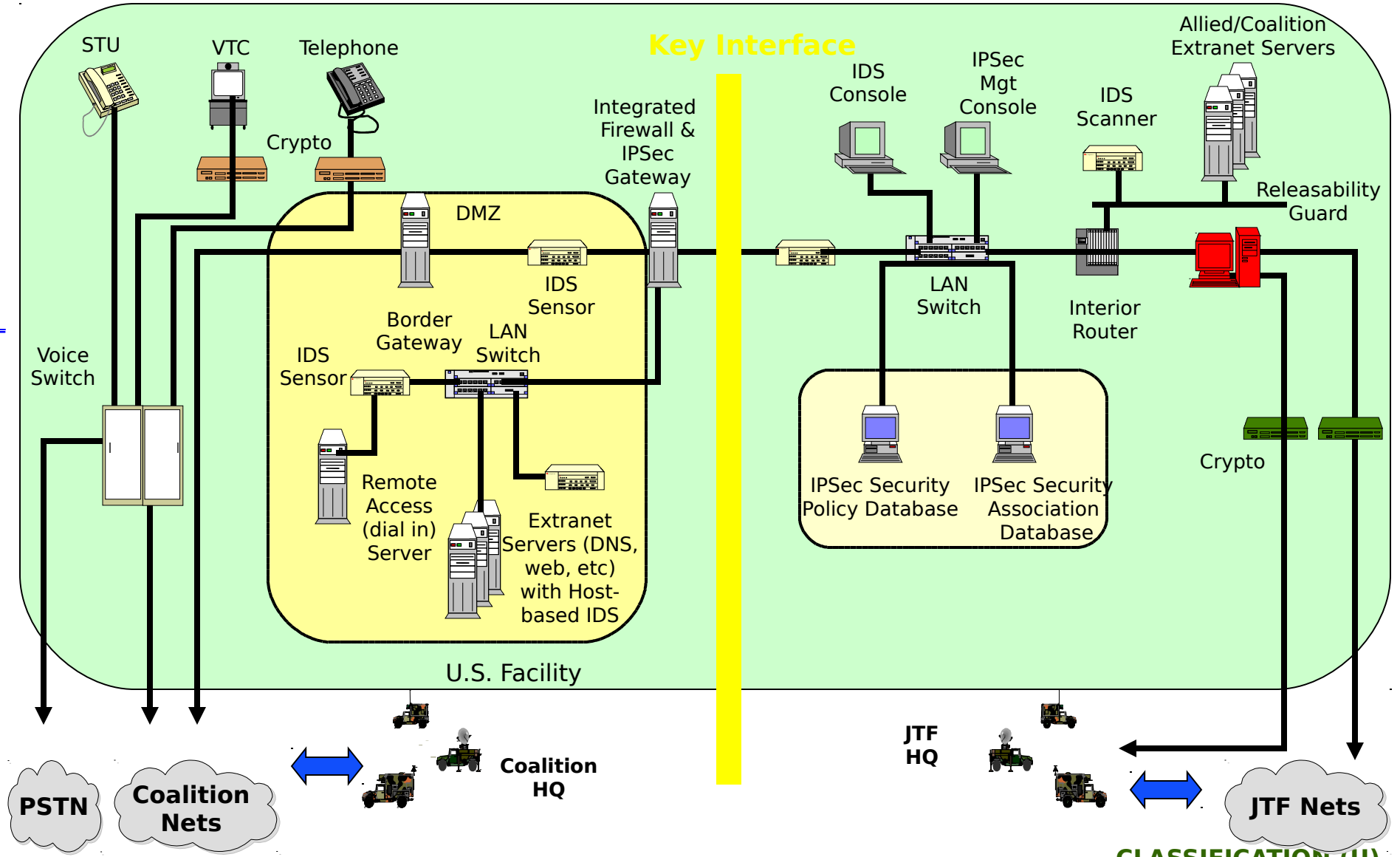
- Application Server to Shared Data (e.g., Situational Awareness Data KIP)

(Pilot Projects in Red)

STEP/TELEPORT



JTF to Coalition

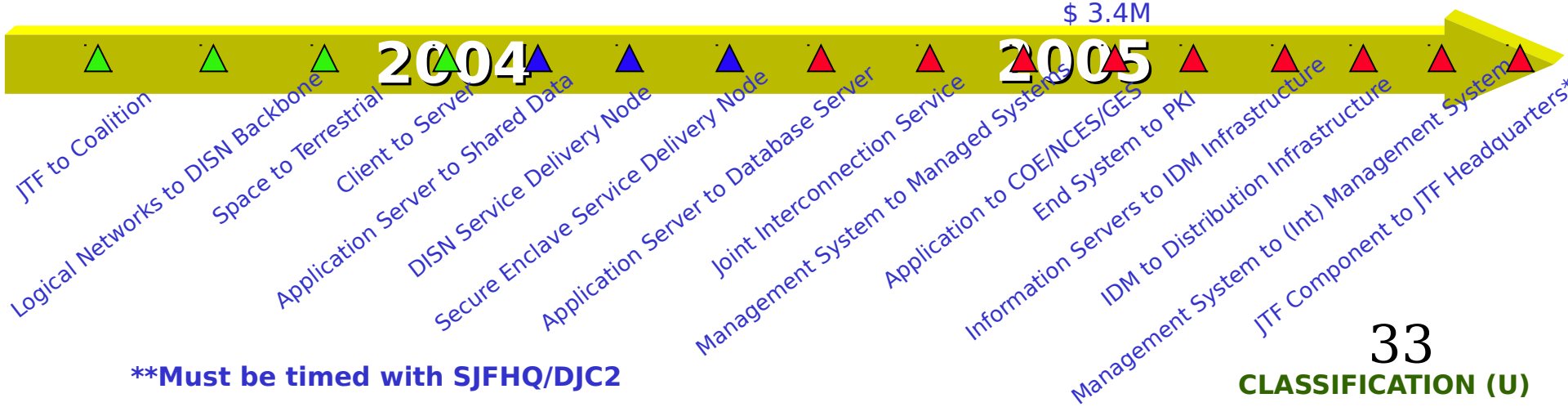


Key Interface Profile

- ✓**Refined Operational View**
- ✓**Refined System View**
- ✓**Interface Control Specifications -- Interface Control Document (ICD)**
- ✓**Technical View & SV-TV Bridge**
- ✓**Configuration Management Plan**
- ✓**Procedures for Standards Conformance and Interoperability Testing utilizing reference implementations**
- ✓**Engineering Management Plan**

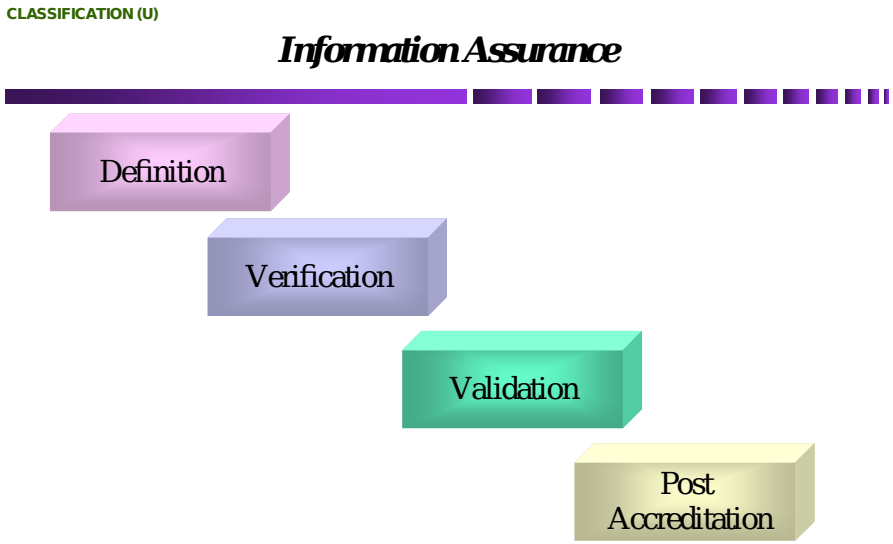
Key Interfaces – Prioritized/Funding Requirements

Priority	Key Interface Profile	Estimated Cost
1.	JTF Component to JTF Headquarters**	400K
2.	JTF to Coalition	300K
3.	Logical Networks to DISN Transport Backbone	100K
4.	Space to Terrestrial	300K
5.	TELEPORT	done
6.	Client to Server	100K
7.	Application Server to Shared Data	50K
8.	DISN Service Delivery Node	200K
9.	Secure Enclave Service Delivery Node	250K
10.	Application Server to Database Server	200K
11.	Joint Interconnection Service	200K
12.	Management System to Managed Systems	250K
13.	Application to COE/CCP (NCES/GES)	200K
14.	End System to PKI	200K
15.	Information Servers to IDM Infrastructure	250K
16.	IDM to Distribution Infrastructure	200K
17.	Management System to (integrated) Management Systems	200K
		$ 3.4M



**Must be timed with SJFHQ/DJC2

Information Assurance (DITSCAP)*

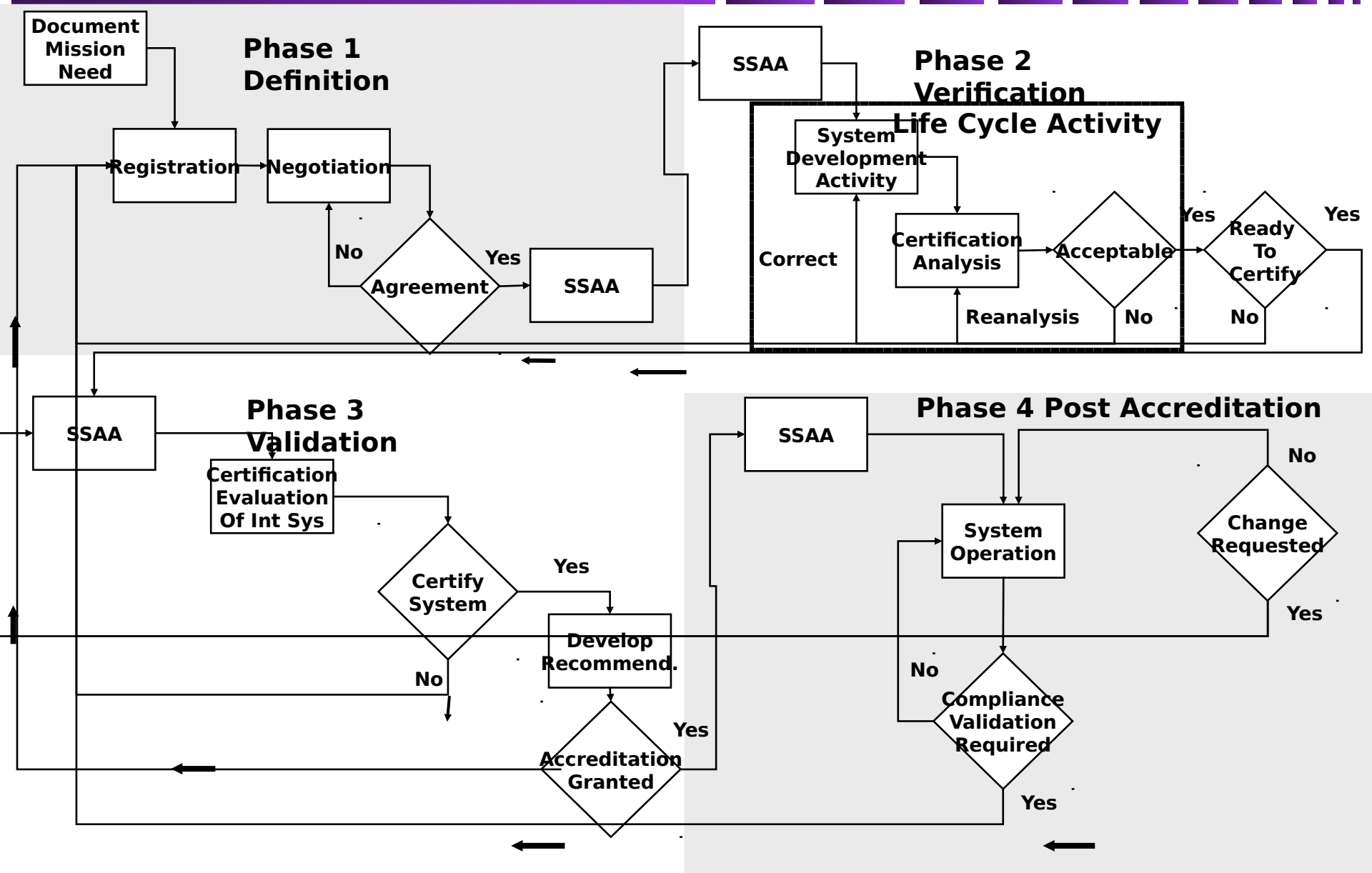


- **Availability**
- **Integrity**
- **Authentication**
- **Confidentiality**
- **Non-repudiation**

INFORMATION ASSURANCE (IA): **Information Operations that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation.**

*DoD Information Technology Security Certification and Accreditation Process

Certification and Accreditation Process (DITSCAP)



Net Ready KPP Statement

Net Ready KPP	Threshold (T)	Objective (O)
All activity interfaces, services, policy-enforcement controls, and data-sharing of the NCOW-RM and GIG-KIPs will be satisfied to the requirements of the specific Joint integrated architecture products (including data correctness, data availability and data processing), and information assurance accreditation, specified in the threshold (T) and objective (O) values.	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements designated as enterprise-level or critical in the Joint integrated architecture	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements in the Joint integrated architecture

JROCM Guidance

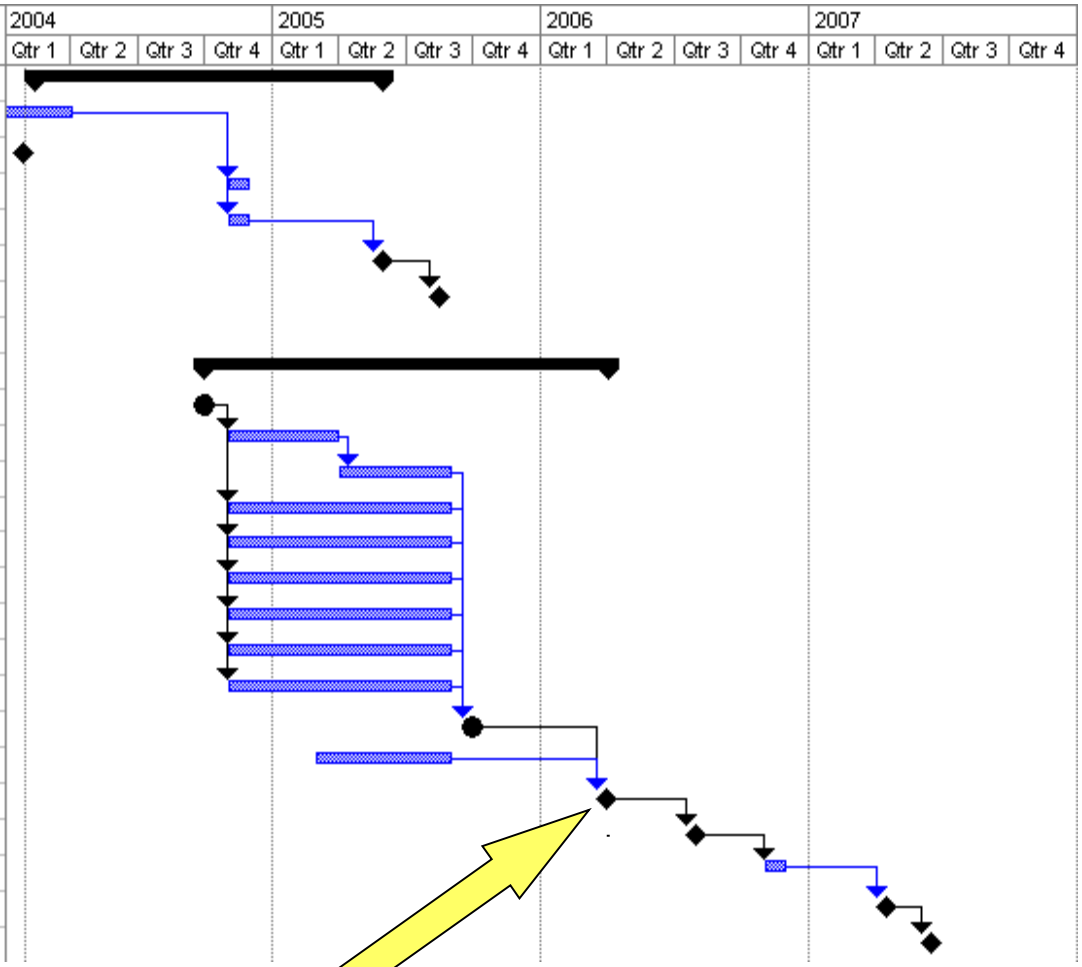
The following statement in the Interoperability Key Performance Parameter section of the document prior to proceeding to further review (re-staffing of the document is not required):

"The **<Document Sponsor>** will update the Interoperability Key Performance Parameter to include all applicable established components of the Net Ready Key Performance Parameter (NR-KPP) in accordance with CJCSI 62 12.0 1 C and a migration strategy to the remaining applicable components of the NR-KPP no later than **<date - no more than 6 months>."**

This update will be submitted through the Joint Capabilities Integration and Development System (JCIDS) process for certification.

A2C2S Net Ready KPP Migration Plan

ID	Task Name	Start	Finish
1	**Interoperability KPP Implementation**	Fri 2/13/04	Tue 5/31/05
2	ORD Change 1 JROC Validation	Thu 5/1/03	Thu 4/1/04
3	J6 Interoperability Certification	Thu 1/29/04	Thu 1/29/04
4	IOTE	Mon 11/1/04	Tue 11/30/04
5	JITC Interoperability Testing	Mon 11/1/04	Tue 11/30/04
6	Interoperability Certification	Tue 5/31/05	Tue 5/31/05
7	Block I Full Rate Production	Mon 8/15/05	Mon 8/15/05
8			
9	**Net Ready Migration**	Fri 10/1/04	Sat 4/1/06
10	**Start ORD conversion to CPD Incr #2**	Fri 10/1/04	Fri 10/1/04
11	Integrated Architecture Products	Mon 11/1/04	Thu 3/31/05
12	Electronic Architecture DB Update	Fri 4/1/05	Wed 8/31/05
13	CRD Crosswalk	Mon 11/1/04	Wed 8/31/05
14	Net Ready KPP Statement	Mon 11/1/04	Wed 8/31/05
15	KIP Assessment	Mon 11/1/04	Wed 8/31/05
16	IA Statement and Compliance	Mon 11/1/04	Wed 8/31/05
17	NCOW RM Assessment	Mon 11/1/04	Wed 8/31/05
18	Interconnectivity & Interop Profiles	Mon 11/1/04	Wed 8/31/05
19	**Complete A2C2S CPD Incr #2**	Fri 9/30/05	Fri 9/30/05
20	C4ISP to ISP conversion	Tue 3/1/05	Wed 8/31/05
21	**JROC Validation CPD and NR KPP**	Sat 4/1/06	Sat 4/1/06
22	Incr #2 (Block II) Milestone C	Tue 8/1/06	Tue 8/1/06
23	JITC Interoperability Testing	Wed 11/1/06	Thu 11/30/06
24	Interoperability Certification	Mon 4/16/07	Mon 4/16/07
25	Incr #2 Full Rate Production	Fri 6/15/07	Fri 6/15/07



Net Ready KPP Migration Completed with JROC Validation and Approval

KPP Testing/ Metrics

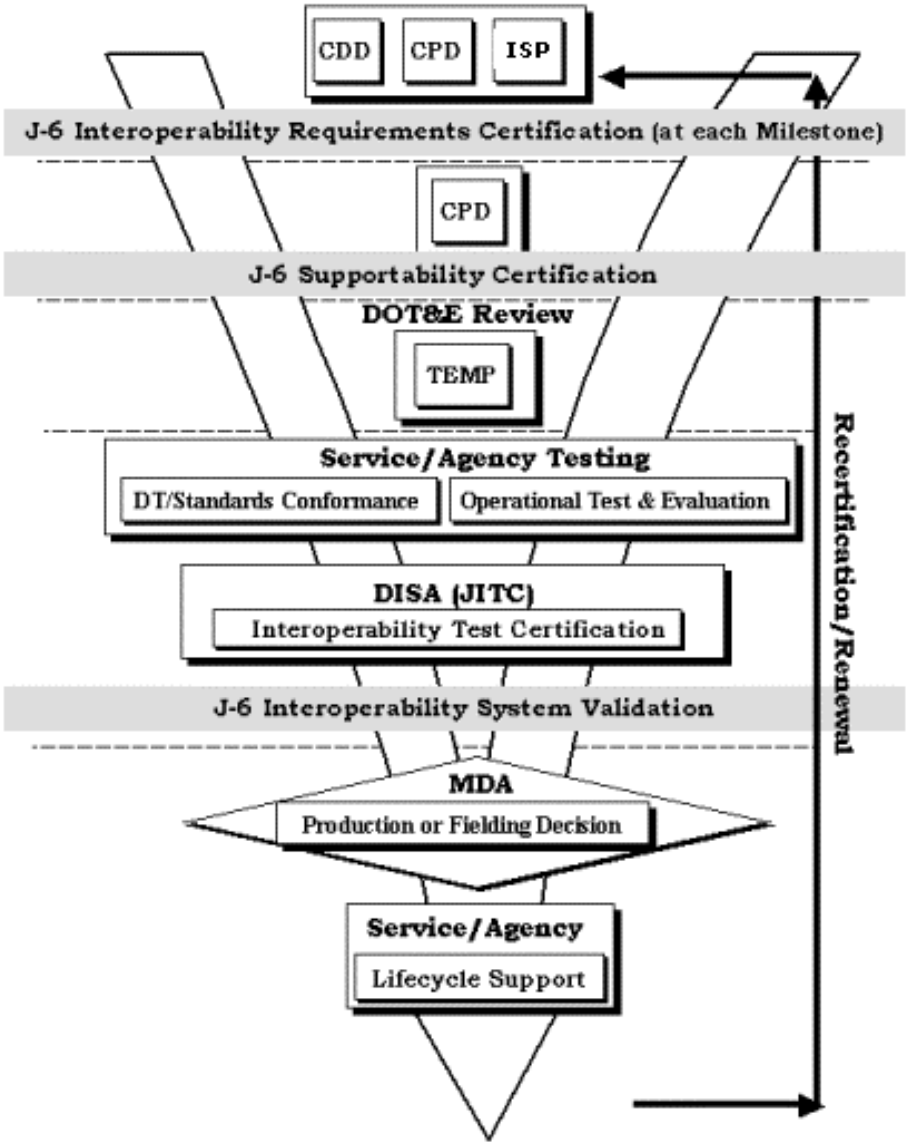
Attributes

- **Information needs**
- **Information timeliness**
- **Information assurance**
- **Net-enabled**

Metrics

- **Core Elements**
  - **Information Processing**
  - **Information Transfer**
  - **Information Modeling, Metadata, and Information Exchange**
  - **Human-Computer Interface**
  - **Information Security/Assurance**
- **Community of Interest (COI) Elements**
  - **Content, Accuracy, Timeliness, Relevance**

Testing


CDD
CPD
ISP
J-6 Interoperability Requirements Certification (at each Milestone)
CPD
J-6 Supportability Certification
DOT&E Review
TEMP
Service/Agency Testing
DT/Standards Conformance
Operational Test & Evaluation
DISA (JITC)
Interoperability Test Certification
J-6 Interoperability System Validation
MDA
Production or Fielding Decision
Service/Agency
Lifecycle Support
Recertification/Renewal

Testing

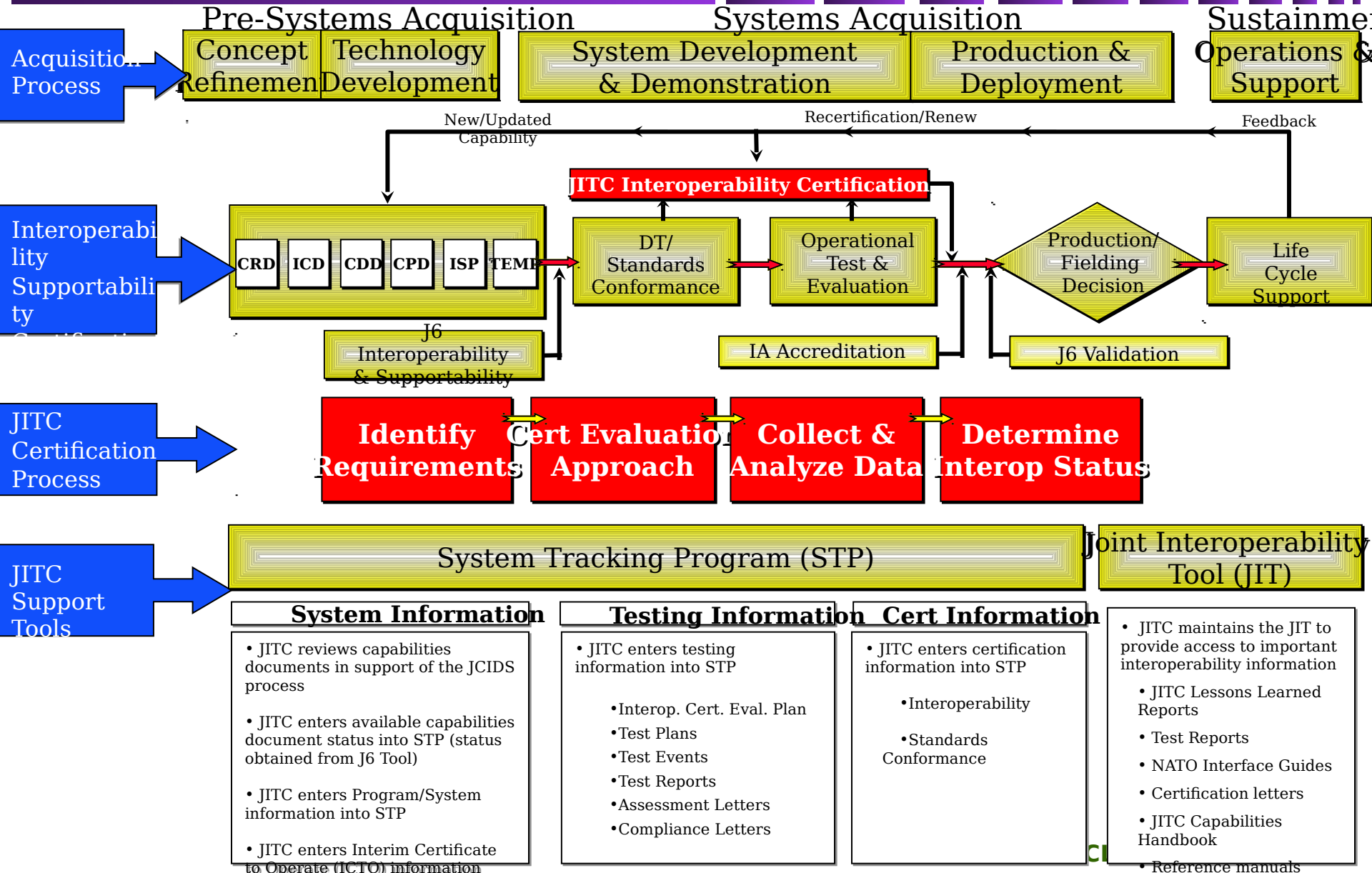
- Attributes
  - Information needs
  - Information timeliness
  - Information assurance
  - Net-enabled
- Metrics
  - Core Elements
    - Information Processing
    - Information Transfer
    - Information Modeling, Metadata, and Information Exchange
    - Human-Computer Interface
    - Information Security/Assurance
- Community of Interest (COI) Elements
  - Content, Accuracy, Timeliness, Relevance

OPERATIONAL TESTING

- Capability Certification
- DT / Standards Conformance, OT&E, and Interoperability Certification
- Operational Verification

JITC INTEROPERABILITY TESTING

JITC Certification Process



System Information

- JITC reviews capabilities documents in support of the JCIDS process
- JITC enters available capabilities document status into STP (status obtained from J6 Tool)
- JITC enters Program/System information into STP
- JITC enters Interim Certificate to Operate (ICTO) information

Testing Information

- JITC enters testing information into STP
  - Interop. Cert. Eval. Plan
  - Test Plans
  - Test Events
  - Test Reports
  - Assessment Letters
  - Compliance Letters

Cert Information

- JITC enters certification information into STP
  - Interoperability
  - Standards Conformance

- JITC maintains the JIT to provide access to important interoperability information
  - JITC Lessons Learned Reports
  - Test Reports
  - NATO Interface Guides
  - Certification letters
  - JITC Capabilities Handbook
  - Reference manuals

Testing to the NR KPP

• GIG Enterprise Services – Compliance – Conformance	• No Change from current
• Key Interface – Compliance – Conformance	• No Change from current
• JTA – Compliance – Conformance	• No Change from current
• Information Assurance	• No Change from current
• Cost $$	• No Change from current

What is missing?

NRKPP:

- **GIG Enterprise Services**
- **Key Interface**

- **Cost $$**

Example of what is needed:

MISSING:

- **Generic Interoperability Requirement Repository (GIRR) (Virtual)**
  - **Includes DISR(JTA), KIPs, etc**
  - **Repository of certified ‘test cases” systems**

- **Unknown – NCES is the pilot**

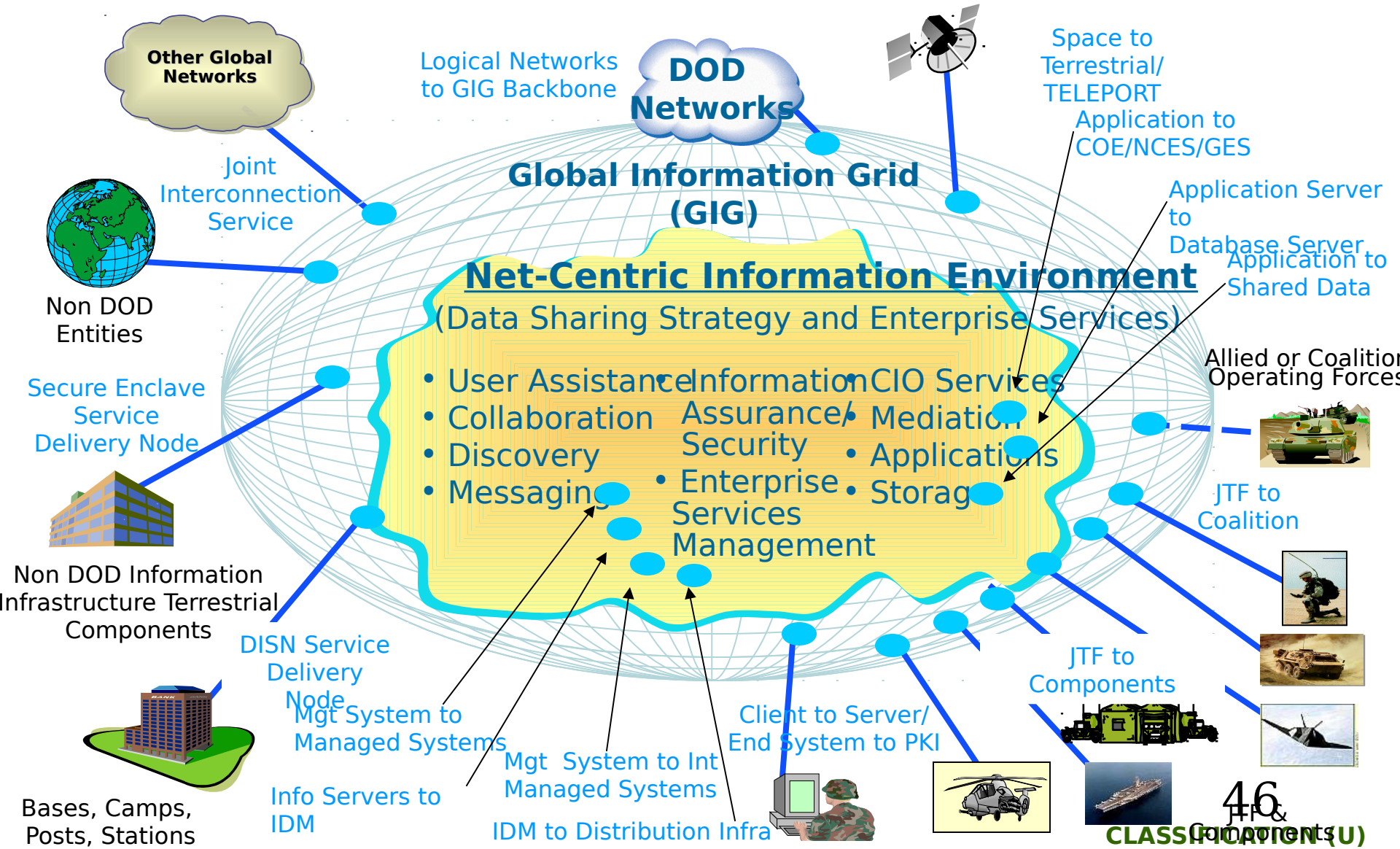
GSCR “Generic Switch Center Requirements” for voice/circuit switches

- **GSCR developed over many years, and provides established measurable testable standards.**

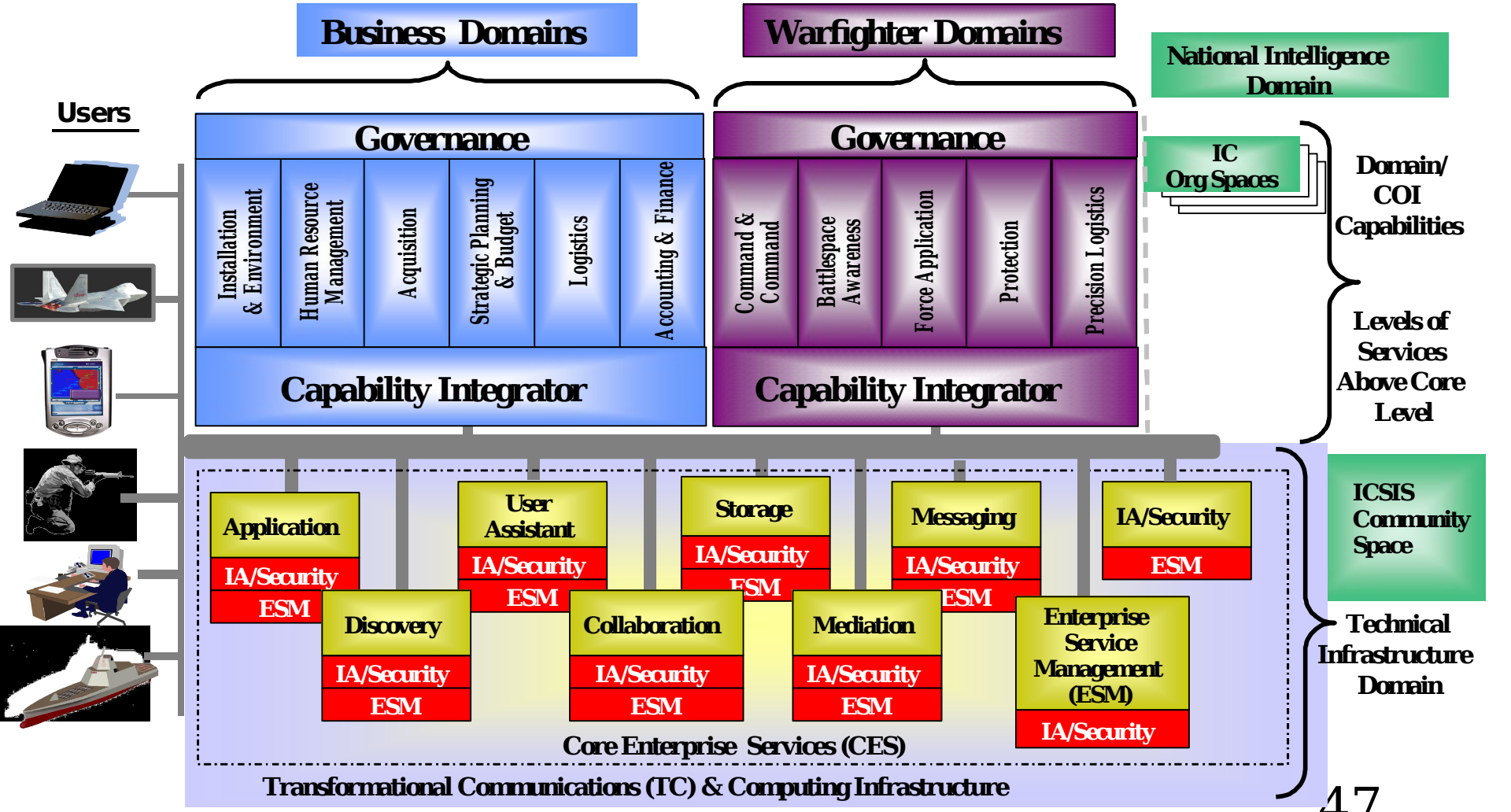
TEST WHAT?

To the GIG

TEST WHAT?
To the KIPs/NCES

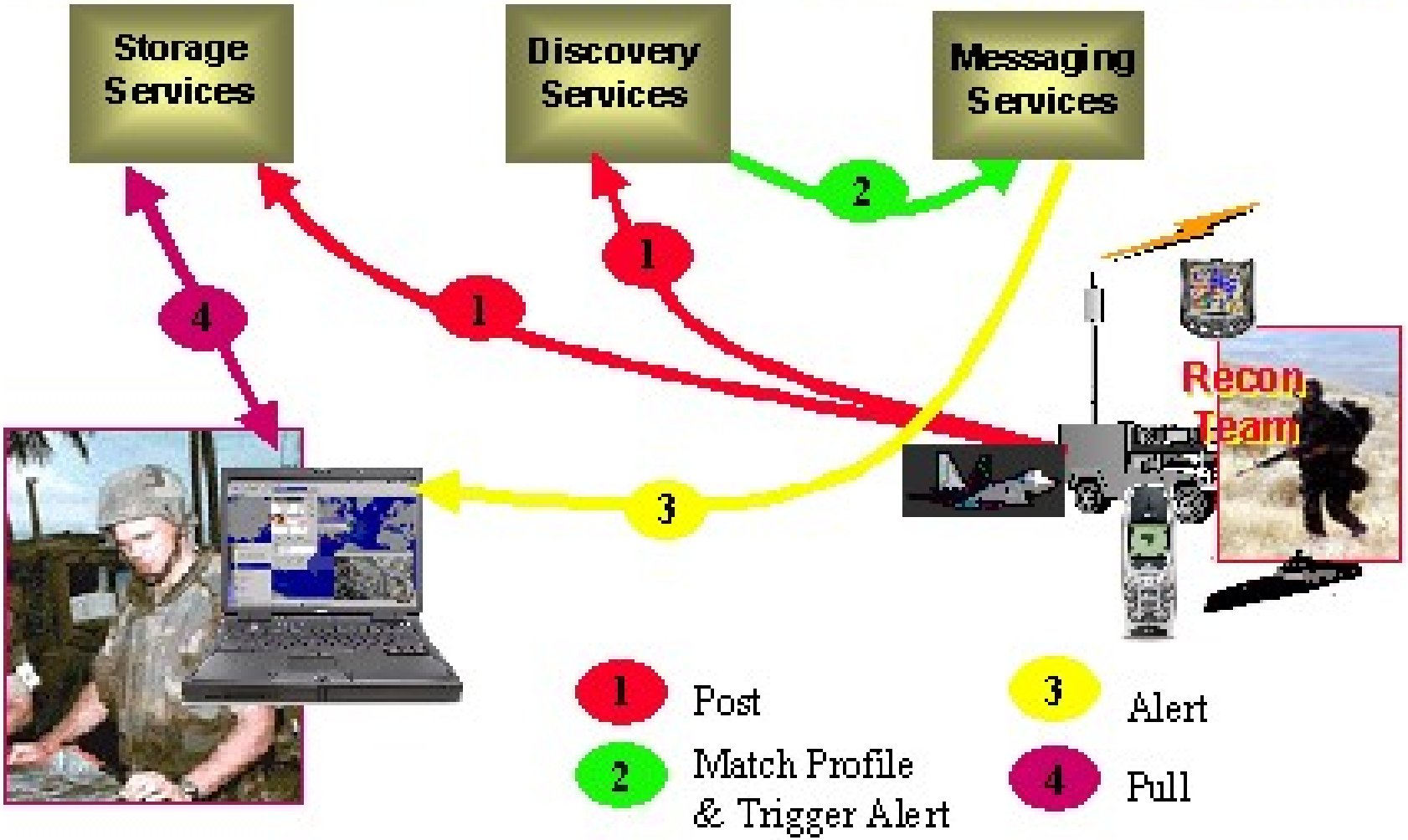


TEST WHAT?
To NCES

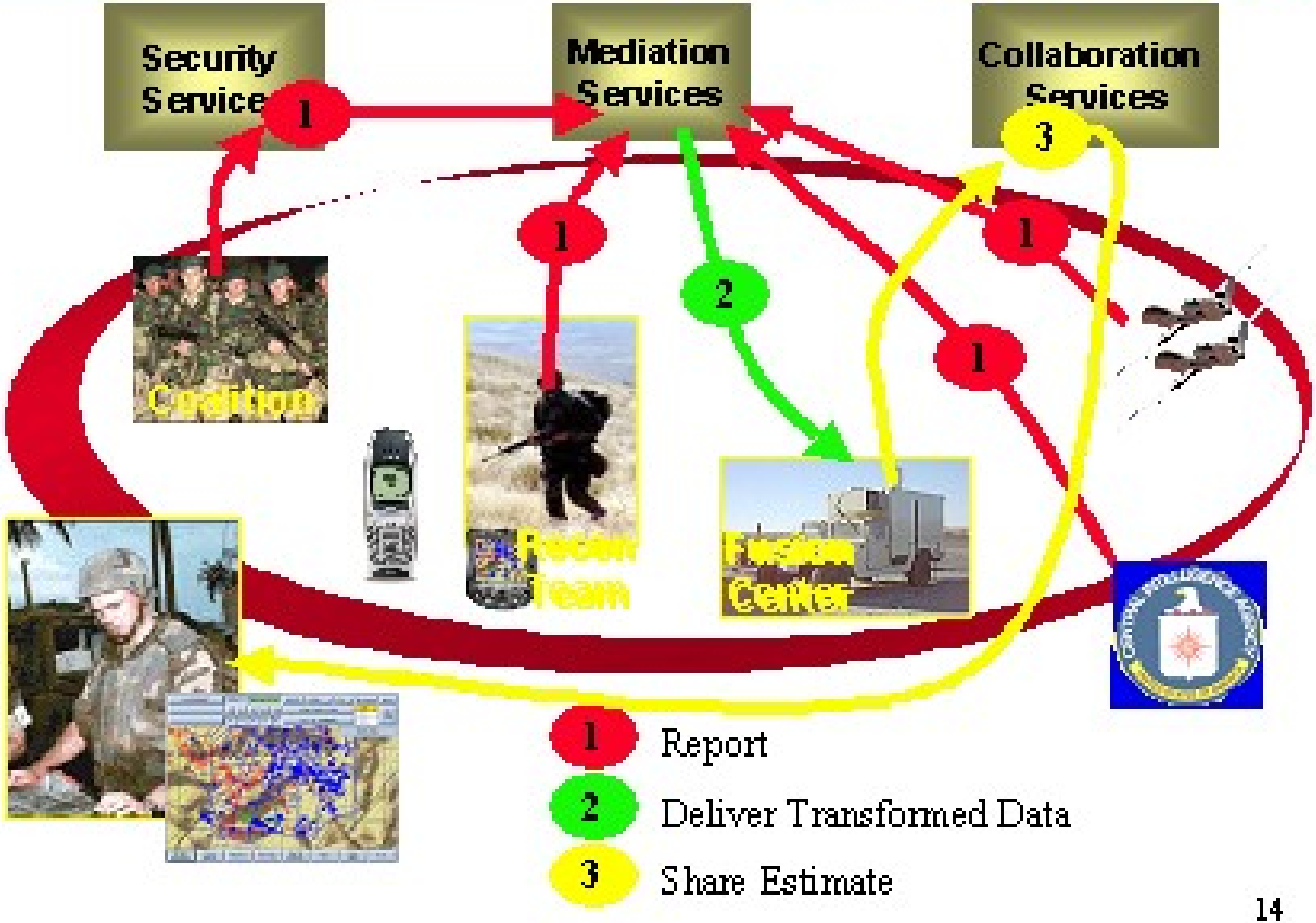


TEST WHAT?

Content, Accuracy, Timeliness, Relevance



TEST WHAT? Information needs, Information timeliness, Information assurance, Net-enabled



TEST WHAT? THE SYSTEMS

- **Information Processing**
- **Information Transfer**
- **Information Modeling, Metadata, and Information Exchange**
- **Human-Computer Interface**
- **Information Security/Assurance**

System Traceability Matrix (SV-5)"

OV-5 Operational Activity

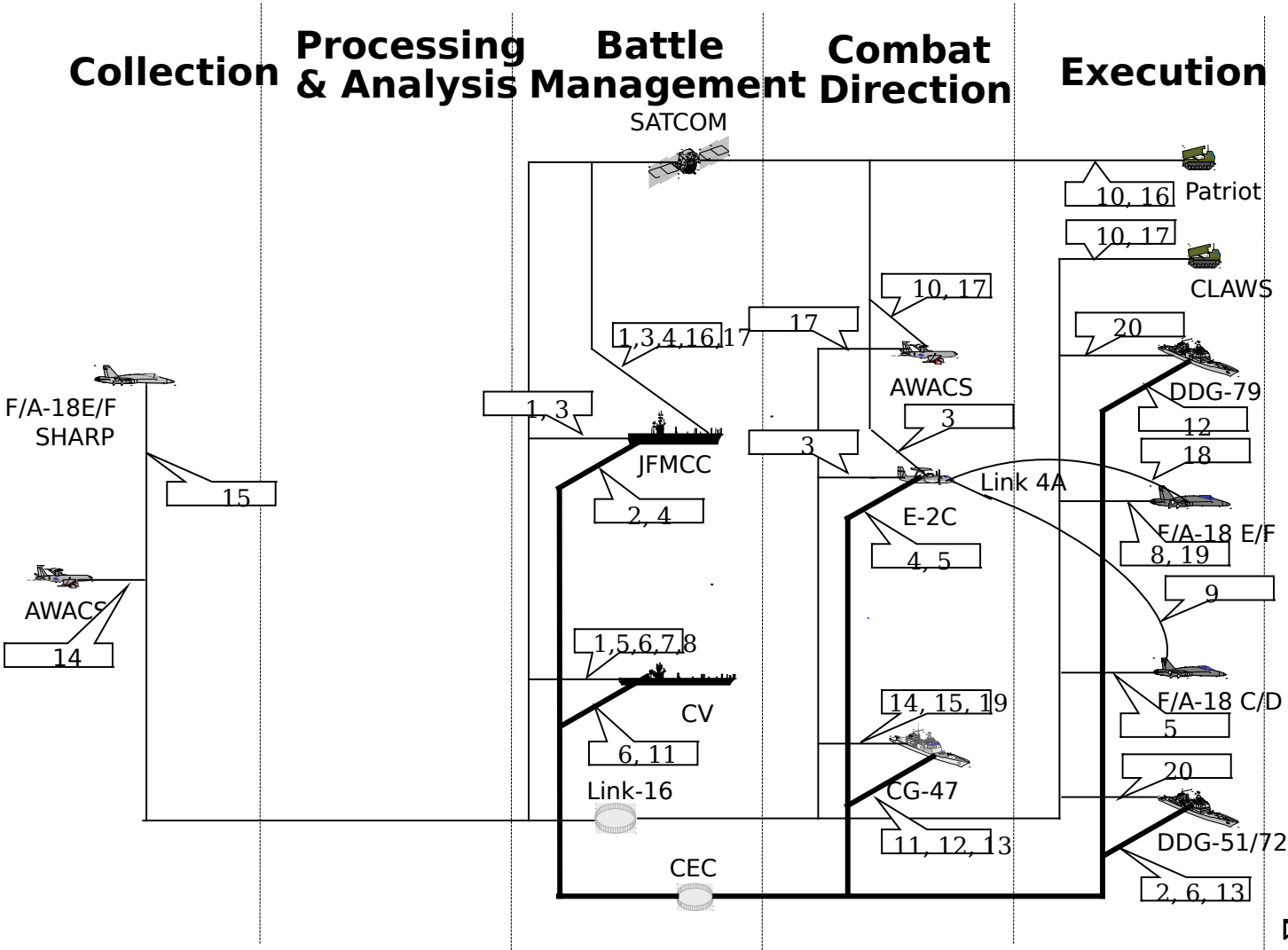
SV-1/2 Systems

	Operational Activity a	Operational Activity b	Operational Activity c	Operational Activity d	Operational Activity e	Operational Activity f	Operational Activity g
System 1	●		●			●	
System 2		●		●		●	
System 3		●		●	●		●
System 4	●		●	●	●		
System 5		●		●			●
System 6				●		●	

Operational Activity to Systems Function Traceability Matrix (SV-5)

System Functions	Operational Activities															
	3.11	3.11.3	3.12	3.12.1	3.12.2	3.12.3	3.13	3.14	3.14.1	3.14.2	3.14.3	3.14.4	3.15	3.16	3.17	3.17.1
1	X															
1.1		X														
1.1.1			X													
1.1.1.1	X															
1.1.1.2					X											
1.1.1.3							X									
1.1.2										X						
1.1.2.1				X												
1.1.2.2						X										
1.1.2.3								X								
1.1.3											X					
1.1.3.1													X			
1.1.3.2									X							
1.1.3.3														X		
1.1.3.4														X		

The Systems "SV-1: 2003 Strike Mission Node Connectivity Diagram"



Note: Notional architecture for instructional purposes

The Systems "Systems Data Exchange Matrix (SV-6)"

SV-6: 2003 Strike Mission (Illustrative Data)

IER No.	Sender	Receiver	Content	Media	Info Char	Format	Security	Freq	Timeliness	Thru put
1	JFMCC	CVIC	Target ID	JTIDS/SAT	Data	J 3.90	KGV-8	N/A	30 sec	N/A
2	DDG-51	JFMCC	Track Init.	DDS	Sensor	CEC data	KY-?	N/A	1 sec	N/A
3	JFMCC	E-2C	Engage Order	JTIDS/SAT	Data	J 13.85	KGV-8	N/A	15 sec	N/A
4	E-2C	JFMCC	Track Update	DDS	Sensor	CEC data	KY-?	N/A	7ms	N/A
5	CVIC	F/A-18	Engage Order	JTIDS	Data	J 13.85	KGV-8	N/A	10ms	N/A
6	DDG-51	CVIC	Target Loc	DDS	Sensor	CEC data	KY-?	N/A	4 sec	N/A
7	Patriot	CVIC	Target Acq	JTIDS	Data	J 4.56	KGV-8	N/A	2 min	N/A
8	F/A-18CD	CVIC	Target Killed	JTIDS	Data	J 8.76	KGV-8	N/A	3 min	N/A
9	E-2C	CVIC	CAP Posit	JTIDS	Data	J 10.74	KGV-8	N/A	35 sec	N/A
10	Patriot	AWACS	Target Loc	JTIDS/SAT	Data	J 12.101	KGV-8	N/A	4 Sec	N/A
11	CG-47	CVIC	Target Loc	DDS	Sensor	J 12.101	KY-?	N/A	2 sec	N/A
12	CG-47	DDG-81	Target ID	DDS	Sensor	CEC data	KY-?	N/A	1 sec	N/A
13	DDG-51	CG-47	Posit Info	DDS	Sensor	CEC data	KY-?	N/A	500 ms	N/A
14	CG-47	AWACS	Cse Orders	JTIDS	Data	J 7.99	KGV-8	N/A	2 min	N/A
15	CG-47	SHARPS	Cse Orders	JTIDS	Data	J 7.99	KGV-8	N/A	2 min	N/A
16	Patriot	JFMCC	Target Loc	JTIDS/SAT	Data	J 12.101	KGV-8	N/A	4 min	N/A
17	Hawk	JFMCC	Target Loc	JTIDS/SAT	Data	J 12.101	KGV-8	N/A	4 min	N/A
18	E-2C	F/A-18EF	Cse Orders	JTIDS	Data	FDL	KGV-8	N/A	30 sec	N/A
19	F/A-18EF	CG-47	Target ID	JTIDS	Data	J 3.90	KGV-8	N/A	30 sec	N/A
20	DDG-81	DDG-51	Target ID	JTIDS	Data	J 3.90	KGV-8	N/A	30 sec	N/A

Note: Notional architecture for instructional purposes

Today- IER Based I KPP

Current Interoperability KPP (I KPP) Centers around one DOD Architectural Operational View (OV-3) that contains Information Exchange Requirements (IER)

FY04 - FY 06 NET READY KPP

Net Centric Operations Warfare NCOW Reference Model Compliance

Integrated Architecture

***Applicable KIPs**

Information Assurance

Measurable and Testable Net-Ready KPP

FY06 NET READY KPP

- **Net Centric Operations Warfare (NCOW) Reference Model Compliance**
- **Integrated Architecture**
- **Key Interface Profiles (KIPs)**
- **Information Assurance**

Measurable and Testable Net-Ready KPP

FY06 and Beyond - NET READY

Net Ready approach centers on Central network:

•Focus on organizational contributions and consumption of information

•One-to-Network paradigm

CLASSIFICATION (U)

Complementary and Corresponding Systems

- **GIG BE**
- **JTRS**
- **GCCS**
- **NCES**
- **TCS**
- **Crypto Modernization**
- **Collaboration Tools**
- **Horizontal Fusion**

Evolving the Interoperability Key Performance Parameter

TODAY

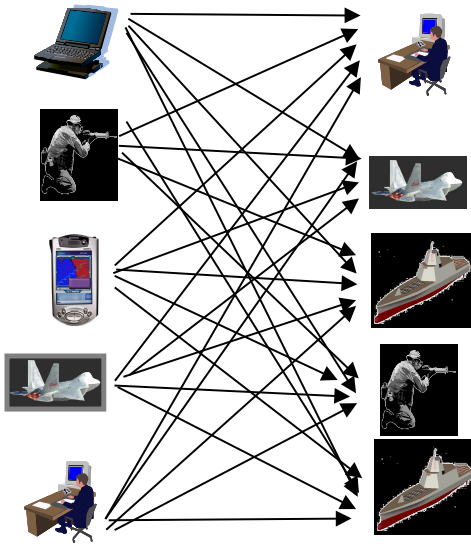
Interoperability KPP	Threshold (T)	Objective (O)
All top-level IERs will be satisfied to the standards specified in the Threshold (T) and Objective (O) values.	100% of top-level IERs designated critical	100% of top-level IERs

JTRS

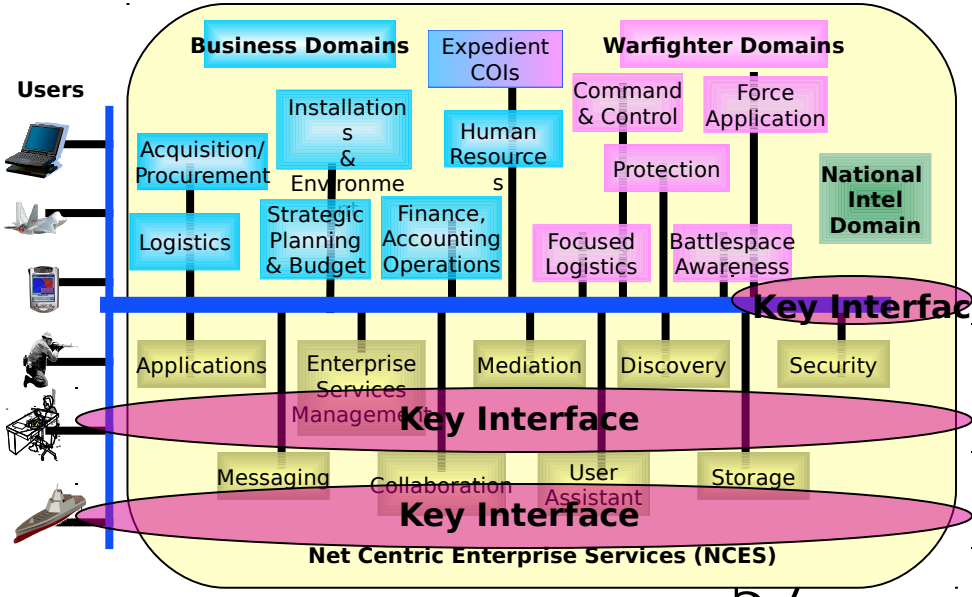
- Internal growth capacity
- Set modes/ capabilities/ configuration via net
- Retransmit/Crossband/waveform supportable
- Field time/critical waveforms
- Operate designated # of channels at same time
- Scaleable Networking Services
- System Network Interoperability

FCS

- Joint Interoperability
- Networked Battle Command
- Network lethality
- Transportability
- Sustainability/Reliability
- Training
- Survivability



TOMMORROW



4 Pillars

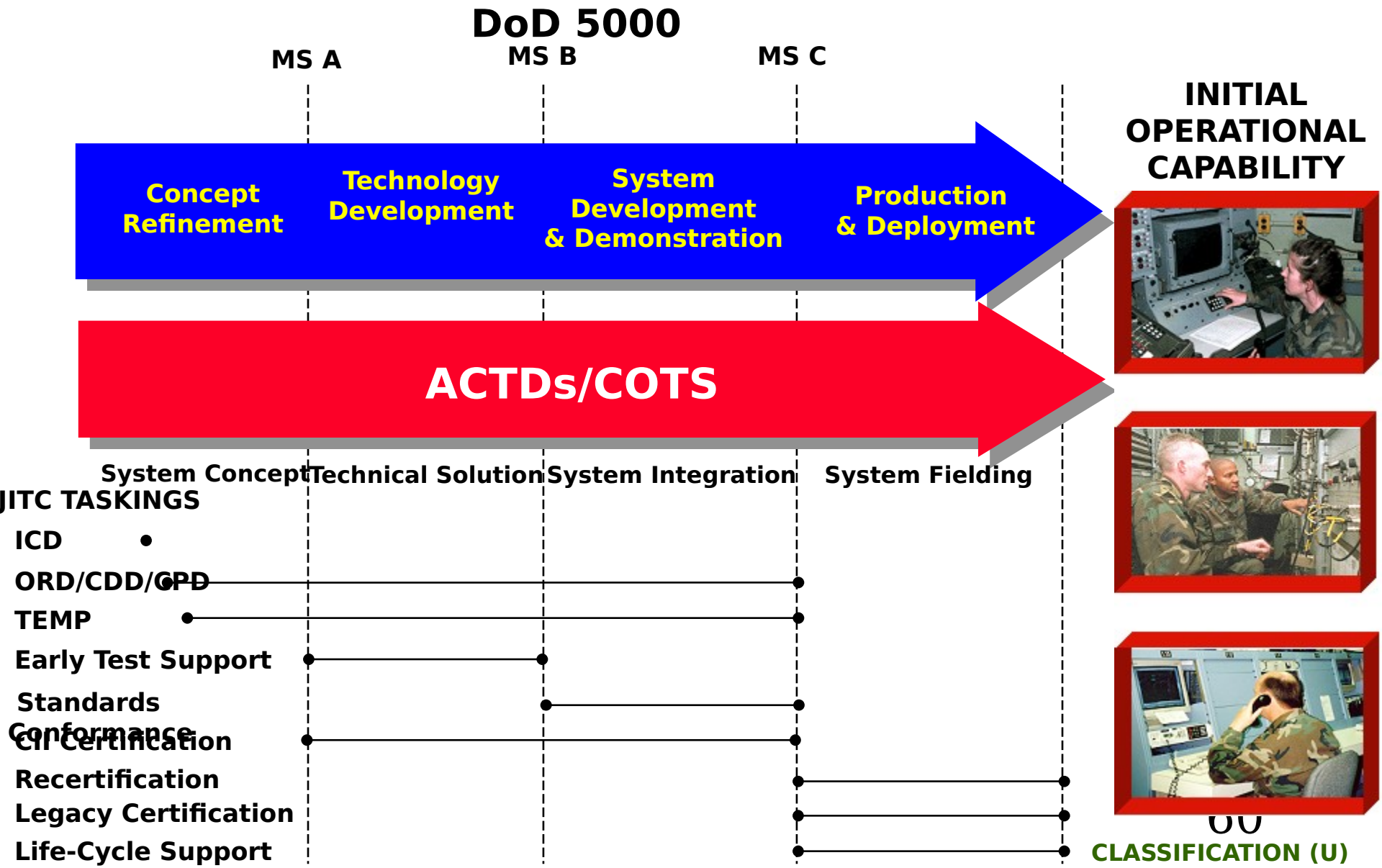
- Information Assurance
- NCOW RM Compliant
- Integrated Architecture Products
- GIG KIPs

Key Interface

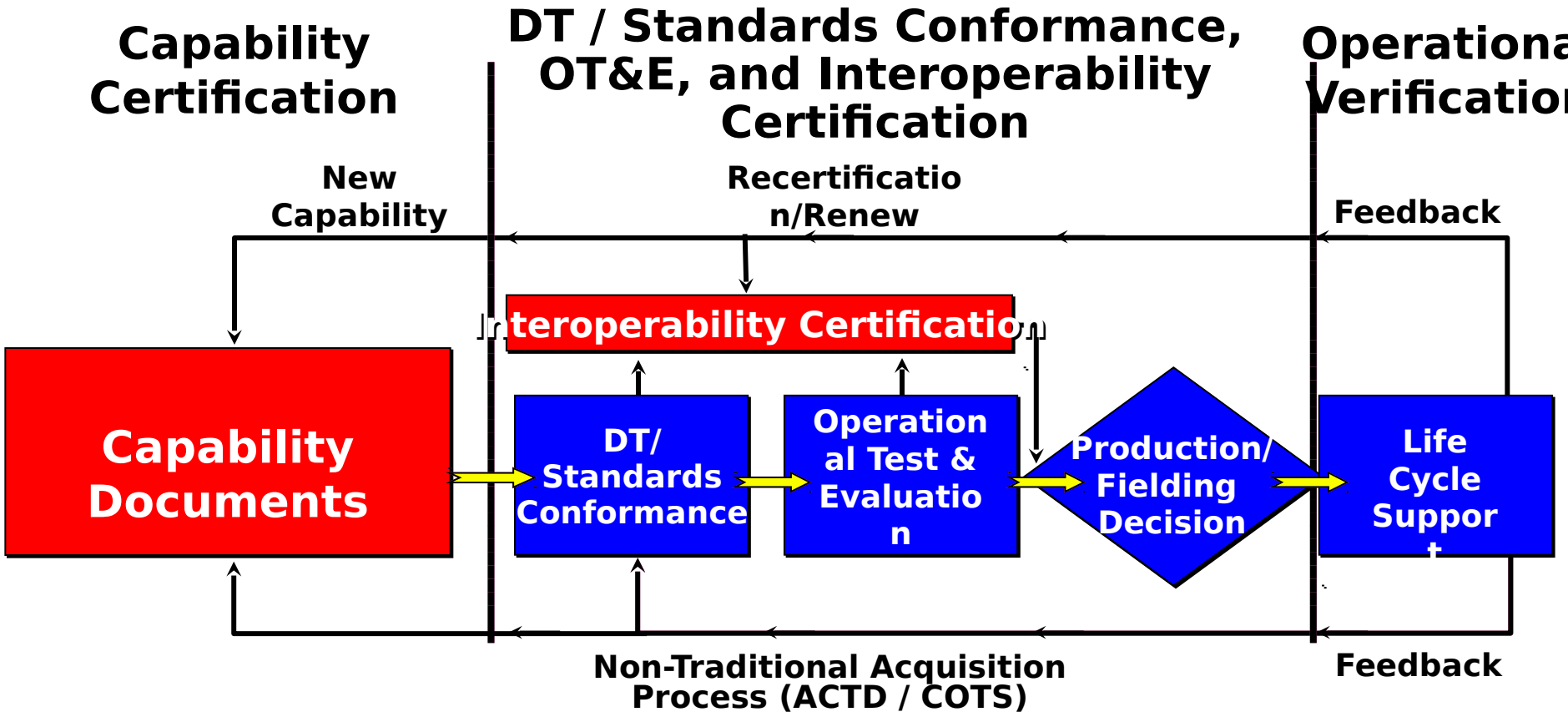
Questions?

BACKUPS

JITC Testing Process
Acquisition Process



JITC Testing Process
Life-Cycle Certification Process



Joint Interoperability Test Certification Process.

- **Identifying requirements/capabilities.**
- **Developing certification approach (planning).**
- **Testing & Evaluating.**
- **Certifying and other status reporting.**

JITC interoperability products

- **Standards Conformance Certification. Issued after technical testing against published standards to describe the degree of conformance to that standard (e.g., conformance to MIL-STD-188-181 (DAMA SATCOM). A standards conformance certification is not sufficient to allow fielding. Additional testing may be required to determine compliance with standards profiles.**
- **Joint Interoperability Assessment. Issued following interoperability testing (OAs, JITC compatibility and interoperability assessments) to provide feedback concerning interoperability strengths and weaknesses when a certification is not appropriate. An interoperability assessment is not sufficient to allow fielding.**
- **OT Readiness Review (OTRR) Interoperability Statement. JITC input, as appropriate, to the OTRR assessing whether a system is ready for OT from an interoperability perspective.**
- **Joint Interoperability Test Certifications: All JITC interoperability test certifications expire upon changes that may affect interoperability. Additionally, all certifications expire three years from date of issue.**

Documents Hierarchy

- **DODD 5000.1 Defense Acquisition System (POLICY)**
- **DODI 5000.2 Operations of the Defense Acquisition System (IMPLEMENATION)**
- **DODD 4630.5 Interoperability and Supportability of Information (IT) and National Security Systems (NSS) (DIRECTIVE)**
- **DODI 4630.8 Procedures for Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS) (IMPLEMENTER)**
- **DODD 8500.1 Information Assurance (IA) (DIRECTIVE)**
- **CJCSI 3170.01C Joint Capabilities Integration and Development System (POLICY and PROCEDURE)**
- **CJCSI 6212.01C Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS) (INSTRUCTIONS and IMPLEMENTATION)**

Enforcement

- **If a program/system fails to meet certification requirements, the J-6 will not validate the program and will recommend the program not proceed to the next milestone and that funding be withheld until compliance is achieved and the program/system is validated. The J-6 will make this recommendation to the USD (AT&L), USD (P), USD (C), ASD (NII), the MCEB, and the JROC. The J-6 will also request that the program/system be added to the DOD 4630.8, Interoperability Watch List (IWL).**